

Possible Psychosocial Benefits of Having a Sibling with a Disability

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Abstract

Possible psychosocial benefits resulting from exposure to siblings with disabilities are investigated in the current study. Previous literature has generally overlooked the possibility of psychosocial benefits by exclusively focusing on the negative effects of having a sibling with disabilities. Contact theory suggests that the increased exposure to individuals with disabilities should increase positive attitude toward those who are struggling with disadvantages. This investigation hypothesized that this tendency would be manifested as elevated empathy and compassion in individuals who have siblings with disabilities, and that these traits would be influenced by certain demographic variables. A survey was distributed, and the responses of 182 college-student participants were evaluated using self-report demographic questions and measures of empathy (the Interpersonal Reactivity Index) and compassion (the Care for Others Scale). In addition, an exploratory qualitative inquiry prompted participants to identify other possible benefits they thought they gained from having a sibling with a disability. Scores on the empathy and compassion scales were quantitatively analyzed for demographic variations, and the qualitative responses were analyzed for content themes. Implications of the results are discussed.

Possible Psychosocial Benefits of Having a Sibling with a Disability

Family environment plays an integral role in the average individual's personal development (Abrams, 2009; Bat-Chava & Martin, 2002; Bellin, Bentley, & Sawin, 2009; Bellin & Rice, 2009; Caplan, 2011; Jones et al., 2006). The first social encounters humans experience occur in a family setting, and children learn how to interact with others primarily as a result of interactions with their family members (Abrams, 2009; Bellin & Rice, 2009; Caplan, 2011; Jones, Welsh, Glassmire, & Tavegia, 2006).

Although parents have a critical influence on the psychological and social development of their children, siblings often rank as the second most influential source of familial experience (Abrams, 2009; Bat-Chava & Martin, 2002; Caplan, 2011; Jones et al., 2006). Early interaction with brothers and sisters can determine the occurrence of many behaviors later in life (Abrams, 2009; Bellin & Rice, 2009; Caplan, 2011; Jones et al., 2006).

It is easy to understand, then, why having a sibling with a disability might play a role in an individual's psychosocial health. Growing up with someone who has a disability—whether it is physical, cognitive, emotional or learning—can have an impact on a person's traits and characteristics. This influence can be both positive and negative and can push individuals to be better or cause them to struggle with difficulties (Abrams, 2009; Bat-Chava & Martin, 2002; Bellin et al., 2009; Bellin & Rice, 2009; Caplan, 2011; Faraone et al., 1993; Grissom & Borkowski, 2002; Jones et al., 2006; Lampert, 2007; Lobato, Kao & Plante, 2005; McHale & Gamble, 1989). An investigation of these two possibilities, and the reasons for their development, has the potential to illuminate an issue that is crucial to the psychological health of many individuals.

Current Perspectives Regarding this Unique Familial Atmosphere

In recent years, studies investigating the effects of sibling disability have become common. Research on families raising children who have disabilities is extensive, but studies that investigate the effect the child's disability has on the family's social environment are scarce, and research that focuses exclusively on the adjustment of sibling remain limited (Bat-Chava & Martin, 2002; Bellin et al., 2009; Bellin & Rice, 2009). Previous research has centered on intellectual disability, physical or sensory impairments and chronic illness, while little research has been done on learning disabilities (Jones et al., 2006). Lobato et al. (2005) pointed out that few studies have yet been conducted which investigate the cultural elements of this unique sibling relationship. In addition, the absence of longitudinal studies makes it difficult to assert conclusions about the permanent consequences of growing up with a sibling who has a disability.

Perhaps the most constrictive limitation that exists in the current literature is a lack of information about the positive aspects of having a brother or sister with an impairment or chronic illness. Grissom and Borkowski (2002) criticized the persistence of the maladjustment view, which they described as a focus on pathology that has caused researchers to limit themselves to measures of psychopathology without including antithetic measurements of potential benefits. Researchers continue to maintain negative assumptions about the effects a child with a disability has on his or her family, despite the positive shift of disability advocacy in modern psychology. It is only recently that the possible benefits of growing up with a sibling with a disability are being recognized and investigated (Grissom & Borkowski, 2002). Many of these potential benefits will be

described following a brief discussion of the psychosocial detriments that may arise as a result of having a sibling with a disability.

Negative Psychosocial Outcomes of Having a Sibling with a Disability

Despite the unfortunate dominance of negatively geared studies in the literature, the research that has been conducted to elucidate the detrimental outcomes associated with growing up with a sibling with a disability is nonetheless valuable. The conclusions supplied by researchers who have attempted to measure these varied negative effects have provided psychologists with indispensable insight concerning the well-being and health of many individuals. The research has produced a more comprehensive understanding of the family units of persons with disabilities and has been essential to the development of programs better adapted to helping those families (Abrams, 2009; Bat-Chava & Martin, 2002; Bellin & Rice, 2009; Caplan, 2011; Jones et al., 2006; Lampert, 2007).

The negative psychosocial outcomes associated with having a sibling with a disability that have been indicated in the literature can usually be split into two categories: internalized emotions and externalized behaviors (Jones et al., 2006). The most common emotional difficulties that are associated with growing up with a sibling with a disability are anger, neglect, fear, depression, anxiety, resentment, negative self-image, guilt, hostility, stress, embarrassment, worry, and jealousy (Bat-Chava & Martin, 2002; Bellin et al., 2009; Bellin & Rice, 2009; Jones et al., 2006; Lobato et al., 2005). Qualitative data indicate having a sibling with a disability does have a large psychological effect (Bellin & Rice, 2009).

Some studies suggest children who grow up with siblings with disabilities display no adjustment problems (McHale & Gamble, 1989); however, Lobato et al. (2005) claimed that externalized behavioral problems are still elevated in these individuals. Internalized emotional problems seem to be less prevalent (Lobato et al., 2005). An extensive list of behavioral difficulties *well* children struggle with has developed out of the body of literature on the topic. These effects include academic difficulties, aggressiveness, conflict with parents and siblings, delinquency, and generally poor psychological functioning and wellbeing (Bellin et al., 2009; Bellin & Rice, 2009; Jones et al., 2006; McHale & Gamble, 1989).

Some of these negative psychosocial outcomes may be the result of affected peer relationships. Bellin and Rice (2009) proposed that children who have siblings with disabilities are often teased or bullied as a consequence. Regardless of whether they are actually bullied or not, these children must deal with negative peer reactions (Lobato et al., 1987). Typical peer relationships are often inhibited further because having a sibling with a disability may result in disruptions during social activities (Jones et al., 2006). These peer relationships facilitate healthy development, so a deficiency in these crucial experiences may explain some of the observed difficulties (McHale & Gamble, 1989). McHale and Gamble (1989) mentioned that children with siblings with disabilities perceive less social acceptance, and Jones et al. (2006) reported that healthy siblings of children with disabilities believe their problems are more numerous and difficult than the problems their peers experience.

There are also several unique aspects of the family dynamic which can produce these negative outcomes. For instance, role confusion in sibling interactions can

contribute to negative outcomes (Jones et al., 2006). In addition, children who have a brother or sister with an impairment often experience extended periods of isolation, and may have limited access to information about their sibling's disability (Lobato et al., 2005).

A common concern expressed in the literature is the degree to which healthy siblings are required to make personal sacrifices in favor of their sibling with a disability (Lobato et al., 2005). Many individuals who have siblings with disabilities are required to take on more caregiving responsibilities (Jones et al., 2006; Lobato, 1987). Children with siblings who have disabilities are often resentful toward their overtaxed parents, who expect them to shoulder this extra responsibility and who often must devote the majority of their time and attention to the child with a disability (Abrams, 2009; Caplan, 2011). Sometimes parents will show preferential treatment toward an ill or impaired child (Lobato et al., 2005). Individuals with a brother or sister with a disability may resent their impaired sibling, and this jealous anger is sometimes expressed as direct aggression (Caplan, 2011). However, these individuals often struggle with crippling guilt in reaction to their own jealousy and dissatisfaction, especially when they feel they should be protecting and taking care of their sibling, and they may even struggle with survivor's guilt (Caplan, 2011; McHale & Gamble, 1989). These individuals may attempt to be *model children* to mollify their feelings of guilt, in an attempt to relieve the burden that has been placed on the family as a result of their sibling's deficits, and to garner as much extra attention as possible (Abrams, 2009; Caplan, 2011). This internal pressure may result in a compulsion to achieve (Caplan, 2011).

Certain disabilities may cause more specific dynamics to develop. For instance, during their investigation of adolescents who have siblings with ADHD, Jones et al. (2006) found that familial relationships are often more strained because the adolescents easily lose patience with the unpredictable and disruptive behaviors of their ADHD siblings. These adolescents often reported resentment toward their sibling because they were expected to assume a greater burden of work compared to their sibling. Those with ADHD were more likely to become aggressive if their sibling became aggressive, and retaliatory aggression was found to be common in their non-ADHD siblings as well, which often resulted in a tense or distressing environment. Jones et al. concluded that these factors contributed to the higher-than-average trait anger measured in those with siblings with ADHD.

Caplan (2011) took a unique look at the persistent negative psychosocial outcomes many individuals who grew up with a brother or sister with an impairment have incurred. She used case studies to discuss the considerations one must understand when counseling college students who have experienced these difficult circumstances. Caplan explained that these students often feel that they are “abandoning the ship,” which results in a mixture of guilt, worry and relief (p. 122). They may feel selfish for pursuing their academic ambitions, as they are accustomed to sacrificing their personal desires out of obligation, consideration and necessity. This pattern may continue in their relationships at college, where these individuals are unsure of what their fair share of responsibility is, and may find themselves taking on exaggerated responsibility for the difficult behavior or their peers. College students who grew up with a sibling with a disability may feel they

should be able to love or care for someone despite their faults and may endure excessively troublesome peer behavior as a result (Caplan, 2011).

Caplan (2011) warned that these students are often reluctant to ask for help, for three reasons: they feel they should take care of the problem by themselves, they believe it is selfish or greedy to assert their needs, and they feel others are more deserving of help. Alternatively, they may feel entitled to reparations for the lack of attention at home. These students may fear failure, not wanting to disappoint their families who they believe have been “disappointed enough” (p. 126). Caplan suggested this sense of obligation may influence academic choices and career selection. On the whole, college students who have a sibling with a disability show a persistent concern for their family, overestimating the need to continue to take care of family and underestimating their family’s resilience (Caplan, 2011).

Abrams (2009) corroborated many of Caplan’s assertions concerning typically-developing siblings. She described five characteristics that she claimed many individuals who have a sibling with a disability possess in common, supporting her assertions with case study descriptions. First, Abrams explained that many typically-developing siblings attempt to disassociate themselves from their sibling with a disability. They may claim to be an only child or avoid their brother or sister. Second, typically-developing siblings often also become overly responsible caretakers, protecting and counseling troubled peers to unreasonable extremes. This overactive responsibility often results in the sacrifice of the individual’s personal feelings and anxieties, with which the typically-developing sibling does not want to trouble others. Third, typically-developing siblings may also sacrifice their personal needs out of obligation. Abrams described this phenomenon as

premature independence: a tendency to grow up too fast. These adolescents may feel excessively responsible for themselves, their siblings, and even their parents (Abrams, 2009).

The fourth characteristic of typically-developing siblings that Abrams (2009) expressed is the feeling of pervasive guilt that many of them harbor. Although typically-developing siblings generally love their brothers or sisters with disabilities, many of them resent the attention and special treatment granted to their siblings. However, knowing they are more fortunate than their siblings and that they should not be angry, they often repress their negative emotions as internalized guilt. Fifth, typically-developing siblings generally feel neglected by their parents. According to Abrams, they may even develop symptoms themselves in order to garner more time and attention from the family. Abrams concluded by suggesting that typically-developing siblings are neglected by the mental healthcare systems and by offering her recommendations for improved focus on these individuals. She confidently expressed the opinion that, given proper attention and the opportunity to communicate openly, typically-developing siblings can develop positive relationships with their siblings and parents, and the negative effects of having a sibling with a disability can be mollified (Abrams, 2009).

Psychosocial Benefits of Having a Sibling with a Disability

Several researchers have pointed out that the elevated internalizing symptoms and behavioral problems experienced by those who have a sibling with a disability are usually within normal range (Lobato et al., 2005; McHale & Gamble, 1989). McHale and Gamble (1989) added that many studies suggest these individuals have no adjustment problems at all. A surprising number of studies indicated siblings may actually benefit

from growing up with a sibling with a disability (Bellin & Rice, 2009; McHale & Gamble, 1989).

Common positive emotional and psychological qualities researchers have found increase as a result of this unique sibling relationship include optimistic self-esteem, assertiveness, empathy, affection, the desire to protect, compassion and resilience (Bat-Chava and Martin, 2002; Bellin et al., 2009; Bellin and Rice, 2009; Jones et al., 2006; McHale & Gamble, 1989). McHale and Gamble (1989) concluded that having a sibling with a disability fosters maturity and responsibility, as well as competency and self-esteem. Bellin and Rice (2009) reported that qualitative analysis has revealed a common tendency for those who have siblings with disabilities toward protection and affection. Mothers of children who have a sibling with a disability consistently rate their non-disabled children as more warm and compassionate than mothers who do not have a child with a disability rate their children (McHale & Gamble, 1989). Many college students who grew up with a sibling with a disability feel their lives have been enriched by the experience and claim they have become more empathetic as a result (Caplan, 2011). Indeed, empathy and compassion seem to be traits that are commonly identified with those who have siblings with disabilities (Bat-Chava and Martin, 2002; Bellin et al., 2009; Bellin and Rice, 2009; Caplan, 2011; Jones et al., 2006; McHale & Gamble, 1989).

Family satisfaction, sibling warmth, attitude toward the disorder, and peer support were shown to positively affect the self-concept, prosocial behaviors and adaptive adjustment of individuals who have a sibling with a disability. These favorable relationships are more likely if families respond to personal growth and encourage open communication and communal decision-making (Bellin & Rice, 2009). Grissom and

Borkowski (2002) found that “for adolescents in the siblings with disabilities group, those who possessed higher levels of interpersonal competence and perceived their mothers as emphasizing and modeling prosocial and empathic behavior demonstrated greater self-efficacy” (p. 87). The relationship between interpersonal competence and perceptions of empathetic and prosocial maternal modeling was especially common in female participants (Grissom & Borkowski, 2002).

Several studies have investigated the beneficial psychosocial attributes of siblings of individuals who have a specific type of disability. For instance, Bat-Chava and Martin (2002) argued that having a sibling with a hearing impairment results in more independence, better cooperation, and increased empathy. Alternatively, cohesion, affective expression, and shared decision-making and problem solving are some of the positive attributes associated with siblings of those with cancer (Bellin et al., 2009).

One interesting effect of having a sibling with a disability is the desire to do well. This desire probably results from multiple causes. Caplan (2011) explained that many siblings feel they need to be a near-perfect child to relieve the burden on their family or to compensate for their less-able sibling. Individuals who grow up with siblings with disabilities often excel in order to differentiate themselves, to get more attention from their over-taxed parents, to relieve the burden on the family, and to compensate for their sibling’s deficiencies. This motivation often results in premature maturity and a compulsion to achieve (Abrams, 2009; Caplan, 2011).

Finally, individuals may also learn useful skills and abilities as a result of growing up with a sibling who has a disability. For instance, McHale and Gamble (1989) suggested that playing tutor and helping to teach the disabled child encourages

intellectual development. Siblings may also learn parental roles as a result of taking care of their sibling (McHale & Gamble, 1989).

Factors that Predict Variations in Outcome

Considering both the positive and negative outcomes that result from having a sibling with a disability, several researchers have attempted to identify the variables that influence this wide range of possibilities. These investigations have revealed both protective factors and risk factors. Bellin and Rice (2009) explained that individual, family and peer factors are all important. Studies have suggested that the variation in outcomes could be a result of differences in age, gender, birth order, family size, peer support, ethnicity, or condition type and severity (Bat-Chava & Martin, 2002; Bellin et al., 2009). Bellin and Rice also suggested a negative attitude toward disability heightens conflict, which augments behavioral difficulties.

Family atmosphere seems to be one of the most predictive variables. Low levels of family satisfaction and support are associated with increased behavioral difficulties, and positive family climate usually protects against their development (Bellin et al., 2009). This positive and cohesive family climate has been specified as one in which children are able to voice their concerns and struggles, affective expression is encouraged, and decision-making and problem solving are a collaborative effort (Bat-Chava & Martin, 2002; Bellin et al., 2009). Sibling warmth also predicts positive, adaptive outcomes (Bellin & Rice, 2009).

Parental attitude and strategies can have a critical effect on family satisfaction; parents can either accentuate or mollify the risk of poor psychosocial development in children growing up with siblings with disabilities (Bat-Chava & Martin, 2002). Parents

of children with disabilities are often required to sacrifice time and attention they would otherwise devote to their additional children, in order to take care of the impaired child. Children without disabilities who grow up with a brother or sister who is impaired are also often asked to complete more household and caregiving tasks than their peers (McHale & Gamble, 1989). McHale and Gamble (1989) found that these children generally reported spending about twice as much time on chores and caregiving activities.

This perceived difference in attention and responsibility can make or break family satisfaction and can increase jealous tension between siblings (Bellin & Rice, 2009; Jones et al., 2006). This is especially true when parents treat their children differently, or when parents compare able siblings negatively to their brother or sister with a disability (Bat-Chava & Martin, 2002). Children scored higher on well-being measures when they believed their parents treated them equally (McHale & Gamble, 1989).

Parental anxiety can also make negative sibling relationships more likely and can discourage well children from seeking parental support because they fear upsetting their parents with their own concerns (Bat-Chava & Martin, 2002). The lack of parental support reduces a child's resistance to the development of depression, anxiety and behavioral problems (Bellin et al., 2009). Sadly, children with siblings with disabilities often recall more negative behavior from their mothers (e.g. complaints or expressions of anger) than their peers (McHale & Gamble, 1989).

Conclusions about the involvement of gender in psychosocial outcomes have been mixed. Bellin et al. (2009) stated that some studies have found that males are more likely to experience negative outcomes as a result of having a sibling with a disability, while

other studies have found no gender differences. Alternatively, Grissom and Borkowski (2002) claimed that females are more likely to endure a weightier caregiving burden, and thus more likely to develop difficulties. Jones et al. (2006) supported this conclusion by asserting that sisters of individuals who are cognitively challenged are more likely to develop conduct disorder problems than brothers of individuals with similar disabilities. McHale and Gamble (1989) found that girls report more negative interactions with both their siblings and mothers than boys and that girls were more depressed and had lower self-esteem. However, McHale and Gamble also found that boys had more negative competency beliefs. Although Bat-Chava and Martin (2002) were unable to identify a difference in outcomes based on whether well siblings were the same gender as their sibling with a disability, Bellin and Rice (2009) found that sibling relationships warmth was higher in same-gendered dyads, while the risk of a compromised relationship was higher in opposite-gendered dyads.

The effects of age and birth order on psychosocial outcome have also been investigated. For instance, Bellin and Rice (2009) found that siblings who were close in age were less likely to have an affectionate relationship. As for birth order effects, findings are inconsistent (Bellin et al., 2009; Bellin & Rice, 2009; Grissom & Borkowski, 2002). Grissom and Borkowski (2002) could detect no birth order difference, and they mentioned that some previous studies have suggested older siblings have more difficulties, while others have suggested younger siblings are more troubled. Older siblings (especially females) are more likely to incur extra responsibilities and are expected to provide care, and, as a result, may experience heightened jealousy, anger, guilt, embarrassment, resentment, worry and conflict with their parents (Bat-Chava &

Martin, 2002; Grissom & Borkowski, 2002; Jones et al., 2006; McHale & Gamble, 1989). On the other hand, younger siblings have been shown to have more negative relationships with their siblings and often encounter difficulties with role asymmetry (often referred to as *role crossover*) when they developmentally surpass their sibling (Bat-Chava & Martin, 2002; Grissom & Borkowski, 2002, p. 80).

Several studies have also hypothesized concerning the effect of disability type and severity. Grissom and Borkowski (2002) noted that these variables can have diverse effects. For example, having a sibling with autism feels more lonely and isolating than having a sibling with an intellectual disability, perhaps because of the associated communication difficulties (Grissom & Borkowski, 2002). Although evidence is mixed, and some studies suggest severity of disorder has no effect (see Bellin et al., 2009), Bellin and Rice (2009) found that sibling relationships were closer when the sibling with a disability had a relatively less severe impairment.

Other findings indicated additional sources of variation in outcomes. Bat-Chava and Martin (2002) found that large families have more positive relationships despite the widely dispersed parental attention. These families tend to discuss the lack of time and attention available for their children openly, and to de-emphasize differences (Bat-Chava & Martin, 2002). Bellin et al. (2009) concluded that peer support predicted behavioral adjustment in siblings of those with Down's syndrome and with developmental disorders, although Bellin and Rice (2009) argued that family satisfaction is more important than peer support in the cultivation of positive sibling relationships. Low socioeconomic status can increase the likelihood of negative outcomes, especially in females who are required to take care of their sibling with a disability more often (Grissom & Borkowski, 2002).

Lobato et al. (2005) found that cultural differences also may play a role in outcomes (Latino participants expressed less accurate information about their siblings' conditions than non-Latino participants, and experienced significantly more internalizing problems).

Faraone et al. (1993) proposed one more possible variable of interest. In their study of children with ADHD and their siblings, they suggest that genetic aggregation of disabilities may be affecting psychosocial outcomes. Twin studies have indicated intellectual impairment in many subjects who do not have a genetic disability but are predisposed to a debilitating trait. For instance, relatives of those with ADHD are at increased risk for ADHD and other disorders. Faraone et al. found that individuals who have siblings with ADHD have higher rates of school failure and lower intelligence test scores (although results were not statistically significant). Environmental factors undoubtedly play a large role in the expression of these difficulties, but it is possible that individuals who have a sibling with a genetic disability may exhibit cognitive deficits as a result of genetic factors (Faraone et al., 1993).

Contact Theory

Contact hypothesis, as first proposed by Gordon Allport in 1954, provides a theoretical explanation for many of the beneficial psychosocial traits that have been observed. Allport suggested that contact with an out-group increases an individual's positive regard for that group (Feist & Feist, 2009). The original purpose of Allport's hypothesis was to propose a method of societal rehabilitation (Anthony, 1972). Contact hypothesis asserts that prejudice can be reduced by facilitating contact between the prejudiced person and the stigmatized group (Feist & Feist, 2009). Studies have suggested that this is because prejudice is partially caused by intergroup anxiety, the

tendency to expect negative interactions with an outgroup, which is reduced by intergroup contact. The contact hypothesis postulates that increased contact between an ingroup member and an outgroup member will reduce the overall prejudice of the ingroup member toward *all* members of that outgroup (Turner, Crisp, & Lambert, 2007).

Studies have been conducted in a variety of settings with a broad spectrum of outgroups—including individuals with disabilities—and have consistently supported Allport's premise. Turner et al. (2007) reported research which indicates contact can change both emotional and cognitive attitudes toward outgroups and can increase the ability for an ingroup member to see outgroup members as distinct, variable individuals instead of one stereotypical, homogenous group. Anthony (1972) buttressed this conclusion by describing the increased tendency to view those with disabilities as *normal* as a result of contact and added that behavioral changes often result as well. He observed that many who experience contact with those with disabilities seek out more information about those with disabilities or choose to volunteer more often (Anthony, 1972). Previous research has also confirmed that there is an association between contact with the mentally ill and decreased likelihood of viewing mentally ill persons as dangerous (Link & Cullen, 1986).

However, interpersonal contact is complex. Increased contact sometimes improves attitudes toward those who belong to another group, sometimes has no effect on attitudes, and occasionally results an increased negative opinion of the group's members (Yuker & Hurley, 1987). Various researchers have debated the cause of this variation. These researchers have demonstrated that situational factors are an important source of variance, as is the type of disability in question (Strohmer, Grand & Purcell, 1984). The

debate over other possible sources of variance has focused on the conditions necessary for beneficial contact. Allport defined several conditions he believed were necessary for intergroup contact to be beneficial, including structure, equal status, and nonstereotypical behavior (Yuker & Hurley, 1987).

The general consensus in the research since Allport's suggestions were first published is that although mere contact is likely beneficial, the most effective contact is coupled with information. Although Turner et al. (2007) cited research that indicates that *any* non-negative contact seems to reduce prejudice, and Anthony (1972) admitted that the mere amount of contact is usually sufficient to predict favorability of attitude, Anthony also asserted that contact alone is not sufficient for change to occur. Anthony claimed that information about those with disabilities is also necessary for contact to favorably affect attitude. Many studies show no increase or even a decrease in positive attitudes when contact is not accompanied by information (Anthony, 1972). Yuker and Hurley (1987) suggested that if no new information is acquired, existing views may be reinforced instead of being modified. The presentation of information combined with contact has been shown to change opinions about the mentally ill, those with cognitive disabilities, and those with physical disabilities (Anthony, 1972).

Anthony (1972) noted that induced exposure in an experimental setting is generally less predictive of favorable attitudes than self-reported history of exposure and suggested that the length and depth of contact may be an important factor to consider. Both Strohmer et al. (1984) and Yuker and Huxley (1987) emphasized the importance of extended and extensive contact. Although extended contact invariably results in negative

contact, it has been suggested that this type of negative contact actually increases positive regard if a foundational relationship has been built (Yuker & Hurley, 1987).

Those who grew up with siblings with disabilities experienced prolonged exposure to an individual with a disability and were likely afforded a rich source of information from which to learn about those with disabilities. Individuals who have siblings with disabilities are exposed early and often to a person who is struggling with difficulties. As a result, it is likely that they have developed a positive view of those with disabilities. This positive view of those with disabilities is manifested in many different areas of one's life, and may have been internalized as permanent traits or characteristics. In addition, it is possible that these positive social beliefs and attitudes have been generalized and extended outward, even toward those without disabilities.

Research Objectives

Individuals who have siblings with disabilities experience extensive contact with a disadvantaged person. It was hypothesized that this contact would manifest itself in those individuals as increased positive regard for other individuals experiencing hardship. Specifically, it was suggested that having a sibling with a disability would be associated with elevated empathy and compassion. This prediction is consistent with research that suggests both empathy and compassion are common in those who grew up with siblings with disabilities (Bat-Chava and Martin, 2002; Bellin et al., 2009; Bellin and Rice, 2009; Caplan, 2011; Jones et al., 2006; McHale & Gamble, 1989). This study proposed to investigate demographic variables that research suggests may be relevant to psychosocial outcomes. The variables of interest were participant gender, the participant's gender match with sibling (same-gendered or different-gendered pair), the participant's age in

relation to the sibling's age, and the sibling's type of disability. Thus the first, quantitative research question was whether empathy and compassion vary significantly as a result of these factors.

A second, more general qualitative research question further directed this study. Despite the wide variety of research that has been conducted to investigate specific adaptive outcomes of having a sibling with a disability, little qualitative research has been conducted to identify those benefits as perceived by the siblings themselves. The current study employed a qualitative component in an attempt to expose and classify possible psychosocial benefits of having a sibling with a disability. This second research objective was an attempt to clarify whether participants felt they were better off as a result of their experiences with having a sibling with a disability, and to uncover some of the prosocial qualities they felt they had gained from their circumstances.

Method

Sample

Participant demographics. Of the 182 participants, 57 (31.1%) were male and 125 (68.3%) were female (the percentages do not add up to 100% as a result of rounding error). Ages ranged from 18 to 57, although only one participant indicated an age over 30. The mean participant age was 20.5, and the median participant age was 20.

In addition to these standard demographic questions, Sperber's (2008) questionnaire was adapted to measure supplementary relevant demographic variables (see Appendix A for the complete adapted questionnaire). When asked, "Have you ever been diagnosed with a disability?" 22.5% of participants indicated the affirmative, while 77.5% of participants replied that they had not. Sperber's categorization of disability was

used to identify both specific disabilities, and categories of disability. The four disability categories were physical disability, mental disability, emotional disability and learning disability. Of the participants who indicated that they had been diagnosed with a disability ($n = 41$), 23 indicated a learning disability, 4 indicated physical disabilities, 1 indicated a mental disability, 1 indicated an emotional disability, and the remaining 12 indicated they had disabilities in multiple categories. The specific disability type indicated most commonly by participants was “Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD)” ($n = 9$), followed by “Dyslexia” ($n = 4$) and “Other learning disability(s)” ($n = 4$). Seventeen participants indicated they had been diagnosed with multiple specific disability types.

Participants were also asked several questions about their demographics in relation to the sibling they identified as having a disability. The data indicated that 60.3% of participants are older than their sibling with a disability, while 39.7% are younger than their sibling with a disability. Participants were asked to provide their age at the approximate time their sibling was diagnosed. The mean participant age at the time of their sibling’s diagnosis is 10.53, with ages ranging from a diagnosis before the participant was born, to a diagnosis when the participant was 57. Approximately 76.9% of participants indicated that they had lived at home with their sibling who has a disability, while 23.1% indicated they had not. The number of years the participant lived at home with their sibling ranged from 1 to 28, and the average number of years the participants lived at home with their sibling is 15.13.

Participants were also asked if they have more than one sibling with a disability, and 13.2% ($n = 24$) of participants indicated that they did. Of these 24 participants, 16

indicated they have two siblings with disabilities, 4 indicated they have three siblings with disabilities, and 3 indicated that they have four siblings with disabilities. One participant did not indicate how many siblings with disabilities he or she has.

Sibling demographics. The participants were also asked to provide information about their sibling who has a disability. The responses indicate that 57.1% of the participants' siblings were male, while 42.9% were female. Sibling age ranged from age 1 to age 40, with a mean age of 19.3. The approximate age at which the sibling was diagnosed was also collected. Some of the siblings were diagnosed before birth, and one participant's sibling was not diagnosed until age 34. The mean age at diagnosis was 9.31. Again using Sperber's (2008) classification system, the sibling's disability was identified by category and by specific type. The majority of siblings have disabilities in multiple categories (42.3%), while 31% have learning disabilities, 7.1% have emotional disabilities, 4.8% have mental disabilities, and 14.9% have physical disabilities. Frequencies for specific disabilities are displayed in Table 1.

Table 1
Sibling Disability Frequencies

| Disability Type | Number of Siblings | Percentage of Siblings |
|------------------------------|--------------------|------------------------|
| Deafness | 6 | 3.6% |
| Vision Impairment | 2 | 1.2% |
| Mobility Disability | 3 | 1.8% |
| Diabetes | 3 | 1.8% |
| Seizure Disorder | 3 | 1.8% |
| Other Physical Disability(s) | 8 | 4.8% |
| Mental Retardation | 1 | 0.6% |
| Brain Injury | 3 | 1.8% |

| | | |
|---|----|-------|
| Other Mental Disability(s) | 4 | 2.4% |
| Depression | 7 | 4.2% |
| Bipolar Disorder | 4 | 2.4% |
| Other Emotional Disability(s) | 1 | 0.6% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 28 | 16.7% |
| Dyslexia | 8 | 4.8% |
| Austistic Spectrum Disorder | 8 | 4.8% |
| Other Learning Disability(s) | 8 | 4.8% |
| Multiple Disabilities | 71 | 42.3% |

Note. The total number of siblings for whom disability data were collected was 168. Although there were 183 participants, 15 respondents did not specify their sibling's disability type.

Family demographics. Several demographic variables that were assessed described the participants' families as a whole. Respondents were asked to describe their parents' marital status, and in response 76.9% indicated that their parents were married, 11% indicated that their parents are divorced, 6% indicated one or both had remarried, and 6% indicated that their parents have never been married. The participants were then asked to describe the size of their family by specifying the number of children in the family, including the participants' step and half siblings. The mean number of children in participants' families was 3.64, with a median of 3 children. Household size ranged from families with only 2 children, to a family with 11 children.

Procedure

In order to explore the possible positive psychosocial effects of having a sibling with a disability, it was concluded that both quantitative and qualitative data should be evaluated. Quantitative data were collected to identify levels of empathy and compassion. The second inquiry investigated possible other effects of having a sibling with a disability. Because of the limited research that has been conducted on the topic, a

qualitative analysis was designed to reveal the relationship between having a sibling with a disability and virtuous character traits. A single survey study was conducted to gather both the quantitative and the qualitative information.

A convenience sample of 182 students who attend a large, private university in the Southeastern United States was recruited for the current study. The survey was posted on the university's Psychology Department website, and the link asked students who have a sibling with a disability to participate. Completion of the survey constituted partial fulfillment of the course requirements common to all of the university's psychology classes, which provided incentive encouraging students to participate. The survey was available for approximately two months during the fall semester. Participation was voluntary and only participants who indicated that they have a sibling with a disability were included in the study.

Measures

The survey consisted of two parts, a quantitative section and a qualitative section. The quantitative section presented the demographic questionnaire, adapted from Sperber's survey (2008), a scale to measure empathy and a scale to measure compassion. The scales used were the Interpersonal Reactivity Index (IRI) as developed by Davis (1980), and the Concern for Others Scale (CFOS) used by Lampert (2007).

Interpersonal Reactivity Index. According to Davis (1980), the IRI is a multidimensional approach to individual differences in empathy. Davis developed his scale to address the emotional, affective element of empathy as well as the cognitive capability to take another's perspective. After an extensive test development phase, during which several versions of the questionnaire were created and distributed, Davis

used Joreskog factor analyses to select the questions that were most relevant to the empathy construct. Each item is a statement, to which participants respond using a five-point Likert scale by choosing an option from 0: “Does not describe me well,” to 4: “Describes me very well” (Davis, 1980). He identified 4 subscales, with 7 items each, for a total of 28 questions (Davis, 1980). All 28 items, divided by subscale, can be found in Appendix B.

The first subscale Davis (1980) identified is the Fantasy Scale (FS), which assesses participant tendency to identify strongly with fictitious characters as they experience emotion. An example of an item from this subscale is, “When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.” The second subscale, the Perspective-Taking Scale (PT), measures participant capacity or propensity to look at things from another person’s point of view. One item from this set is “Before criticizing someone, I try to imagine how I would feel if I were in their place.” Empathetic Concern Scale (EC) taps into a respondent’s feelings of warmth and concern for others who are experiencing adversity. For instance, respondents were asked to respond to the statement, “I often have tender, concerned feelings for people less fortunate than me.” The fourth and final set of items, the Personal Distress Scale (PD), assesses a participant’s feelings of anxiety and discomfort that result from witnessing others face negative events. One example from this final scale is this item: “I sometimes feel helpless when I am in the middle of a very emotional situation” (Davis, 1980).

In order to assess the instrument’s reliability, Davis (1980) performed additional Joreskog factor analyses, using oblique rotation of factors ($\delta = 0$). The factor loading

clearly supported the four-subscale item division, and standardized alpha coefficients between .70 and .78 indicate high internal reliability. In addition, test-retest reliability coefficients between .61 and .81 support Davis's conclusion that the IRI is satisfactorily stable over time. In order to attest to the concurrent and discriminant validity of his measure, Davis made predictions about the relationships between the subscales and performed intercorrelation analysis that confirmed his conceptualization. Davis (1983) also tested the relationships between the subscales more extensively in a later study. At that time, Davis provided evidence for the convergent validity of the IRI and its subscales by testing them against two other measures of empathy, the Mehrabian and Epstein Emotional Empathy Scale and the Hogan Empathy Scale. Correlations generally supported the validity of the IRI (Davis, 1983).

For the purposes of this study, the IRI items were assessed using a four-point Likert scale with responses of 0: Does not describe me well, 1: Describes me somewhat, 2: Describes me well, and 3: Describes me very well. Alpha was set at .05 for all IRI analyses.

Concern for Others Scale. The second measure included in the quantitative section of the survey is the CFOS scale used by Lampert (2007). The CFOS is a ten-item instrument, designed to measure students' attitudes toward helping others. Lampert selected this inventory for his study in order to gain some insight into the intent behind prosocial behaviors. Although the measure was originally intended for children between the ages of 8 and 11, it was concluded that the questions were equally applicable to college students. Participants respond to the items using 5-point Likert scale, indicating their level of agreement with a statement. The possible choices are 0: "I disagree a lot," 1:

“I disagree a little,” 2: “I don’t know,” 3: “I agree a little,” and 4: “I agree a lot.”

Examples of items from the CFOS inventory are “When I hear about people who are sad or lonely, I want to do something to help,” and “When I see someone having a problem, I want to help” (Lampert, 2007). For a list of all ten CFOS items, see Lampert.

Lampert (2007) lamented the lack of psychometric findings for the CFOS instrument. However, he concluded that because there are few assessments designed to measure specific areas of pro-social behavior, the CFOS is the best available measure. Despite these misgivings, Lampert asserted that internal consistency for total item correlations has been reported to be as high as .80. In addition, the face validity and construct validity of the CFOS seem to be satisfactory.

This study used a seven-point Likert scale to gauge participant response to the CFOS items. The seven response options were 0: I strongly disagree, 1: I disagree, 2: I disagree somewhat, 3: I am unsure, 4: I agree somewhat, 5: I agree, and 6: I strongly agree. Alpha was set at the .05 level for CFOS analyses as well.

Qualitative inquiry. The second part of the survey consisted of a single qualitative question, designed to prompt thoughtful and expansive replies. Participants were asked, “Do you believe that having a sibling (or siblings) with a disability (or disabilities) has made you a better person in any way? If so, please describe the qualities you possess that you believe are a result of your unique experience. If not, please explain why you disagree.” Respondents were able to indicate whether they thought having a sibling with a disability had been beneficial in any way and were given the opportunity to describe what they believed they had gained from having a sibling with a disability. They

were also given the opportunity to voice negative views concerning how having a sibling with a disability had affected them. No word limit was set for responses.

Results

Quantitative Analysis

The quantitative measures were used to answer the first research question: whether empathy and compassion are significantly affected by participant and sibling characteristics. The quantitative data were analyzed statistically for significant variations across demographic variables. Several variables were of particular interest to this study. Analysis was conducted on these factors to expose any significant differences in total IRI scores, IRI subscale scores (in some cases), and CFOS scores. The variables tested included participant gender, gender match with sibling (same-gendered or different-gendered pair), whether the sibling was younger or older than the participant, and the sibling's type of disability.

The only statistically significant variation that was observed across these variables was the effect of gender. Six independent means *t*-tests were conducted to compare participant scores on the IRI scale, each of its four subscales, and the CFOS scale grouped by gender. Three of the six tests indicated that females ($n = 125$) scored significantly higher at the .05 level than males ($n = 57$) on the measure of interest. Overall IRI scores were higher in women than in men, $t(181) = 3.14, p = 0.002$, as were scores on the Fantasy Subscale (FS), $t(181) = 2.23, p = 0.028$, and the Empathetic Concern Subscale, $t(181) = 2.25, p = 0.027$. The effect sizes for the significant analyses were small to medium, according to Cohen's conventions (0.51, 0.36, and 0.37

respectively). Table 2 lists the means, standard deviations, t scores, p values, and effect sizes (Cohen's d) for each of these analyses.

Table 2

Participant Gender t-Tests

| Scale | $M (SD)$ | | Difference | t Score | p Value | Cohen's d |
|-------------|----------------------|-------------------|------------|-----------|-----------|-------------|
| | Female ($n = 125$) | Male ($n = 57$) | | | | |
| IRI Scale | 79.63 (9.12) | 74.79 (9.88) | 4.84 | 3.14 | .002** | 0.51 |
| FS Subscale | 20.70 (4.08) | 19.12 (4.57) | 1.58 | 2.23 | .028* | 0.36 |
| PT Subscale | 20.46 (3.50) | 19.89 (3.52) | 0.56 | 1.00 | .320 | 0.16 |
| EC Subscale | 23.30 (3.83) | 21.84 (4.14) | 1.45 | 2.25 | .027* | 0.37 |
| PD Subscale | 15.18 (4.34) | 13.93 (4.41) | 1.24 | 1.78 | .078 | 0.29 |
| CFOS Scale | 52.27 (0.84) | 50.16 (7.74) | 2.11 | 1.60 | .113 | 0.38 |

Note. Equal variance was not assumed.

* $p < .05$

** $p < .01$

A one-way between-subjects analysis of variance (ANOVA) was also conducted to identify any variation in scores as a result of the sibling's type of disability. A main effect was found for sibling disability type on both the IRI scores, $F(16,167) = 1.73$, $p = .047$, and the CFOS scores, $F(16,167) = 1.76$, $p = .041$. Tukey's HSD post hoc revealed significant differences in IRI scores between those who had siblings with seizure disorders compared to those who had siblings with other mental disabilities ($p = .028$), bipolar disorder ($p = .027$), and other learning disabilities ($p = .018$). However, these figures may be the result of unequal group size and one participant's outlying scores, and were not considered to be an accurate reflection of any theoretical relationship.

Qualitative Analysis

The qualitative responses were examined in an attempt to answer the second research question: whether participants feel they are better off because they have a sibling with a disability and why they believe this is true. Qualitative analysis was completed using the process outlined by Strauss and Corbin (1990). Strauss and Corbin described the practice of Theoretical Sampling, a method of naturalistic sampling that evolves as concepts are identified as theoretically relevant. In the process of Theoretical Sampling, the balance between consistency and flexibility is essential. Thus, a systematic treatment of qualitative data is necessary, but constant validation of hypothesized variables and constructs is essential.

Strauss and Corbin (1990) suggested a three-step treatment of qualitative data. The first phase is that of open coding, during which responses are mined for as many potential thematic categories and subcategories as possible. During axial coding, the next step in analysis, the categories that were identified are related to one another more specifically. Both inductive and deductive thought are used to create a hierarchy of concepts, and the goal is to uncover as many dimensional differences as possible. The concluding stage of Strauss and Corbin's method is selective coding. During this segment of analysis, the hypothesized relationships are validated or discarded, and categories filled in and developed to synthesize a theory. In this phase, it is essential to be vigilant for variations in underlying processes, to look for evidence of significant absence or presence of constructs, and to compare hypotheses against. Analysis is complete when each category is saturated and dense—in that no new data seem to emerge regarding a

category—and when the model of relationship between the categories is sufficiently validated (Strauss & Corbin, 1990).

This method of data analysis was applied to evaluate participant replies to the qualitative inquiry: “Do you believe that having a sibling (or siblings) with a disability (or disabilities) has made you a better person in any way? If so, please describe the qualities you possess that you believe are a result of your unique experience. If not, please explain why you disagree.” The first division apparent in the data suggested that responses be split into affirmative responses wherein the participant indicated assent to the question’s proposition and negative responses wherein the participant indicated that they do not believe that having a sibling with a disability has made them a better person. Affirmative responses and negative responses were subsequently analyzed separately.

After reviewing the affirmative responses and coding the data using the methods suggested by Strauss and Corbin (1990), an extensive outline of thematic categorization began to emerge. For a complete outline of all response categories identified for affirmative responses, see Appendix C. Three main categories divided the subject of participant responses. The first of these three categories was referred to as origin discussion and denotes participant reference to the reason why a trait developed. There are ten subcategories corresponding to reasons participants believed they had benefited from having a sibling with a disability: a) close, prolonged or daily contact with sibling, b) teaching a sibling, c) trying to understand or love a sibling, d) parental example, e) sibling example, f) sharing struggles with a sibling or with family, g) being older or younger than a sibling with a disability, and h) exposure to a wider variety of personalities and/or situations.

The second main category was used to classify all of the actual traits, skills and beliefs that participants mentioned had resulted from their experience of having a sibling with a disability. Within this category, four subcategories were identified: appreciation and admiration that develop; beliefs that are adopted; character traits that are produced; and knowledge, skills and abilities that are acquired. Each of these categories was presumed to contain additional subcategories. It was hypothesized that the appreciation and admiration category contains five concepts participants mentioned they had gained an appreciation for: a) the diversity and the uniqueness of the individual human being, b) the dignity, positive attitude and strength of persons with disabilities and their caretakers, c) the importance of love and support, d) gratitude concerning their own circumstances and abilities, and e) acknowledgement of how having a sibling with a disability has affected them and who it has made them.

Within the beliefs subcategory, there were four types of beliefs that participants identified as resulting from having a sibling with a disability: general beliefs (about life and people in general), spiritual beliefs, beliefs about those with disabilities, and beliefs about social policy and how to treat others. Some of the beliefs participants expressed included: “Life is precious and you should value every moment of it” (general belief), “God can carry you through any circumstance” (spiritual belief), “Those with disabilities are just as capable of being happy and enjoying life” (belief about those with disabilities), and “Everyone should be treated with equality” (belief about social policy and how to treat others).

Ten basic character traits were identified in the third subcategory: a) selflessness and a desire to help others, b) empathy and compassion in identifying with the heartache

of others, c) patience and forgiveness, d) awareness and acceptance of circumstances, e) joy and dignity in the face of adversity, f) strength, endurance and determination, g) maturity and responsibility, h) tolerance and reservation of judgment, i) protecting and defending those who are at a disadvantage, and d) drive to use their own capabilities and talents.

The final subcategory within this main category of psychosocial benefits participants believed they had gained from having a sibling with a disability is the knowledge, skills and abilities that are acquired. Four further subcategories fit within this category: social skills, knowing how to better help others, life skills, and general knowledge. Some of the gains in this category that participants mentioned include being able to handle unfamiliar or uncomfortable situations (social skills), parenting behaviors and skills (helping skills), knowing how to manage stress and cope with difficulties (life skills), and knowledge and awareness about a disorder or disabilities in general (general knowledge).

Responses were coded as belonging to the third main category when participants referred to an area of life or a specific relationship that had been affected by the traits they referenced. The effect of having a sibling with a disability seems to extend into seven of the participants' basic relationships. The affected areas of life include the participant's relationship with a) his or her sibling, b) his or her family, c) those with the same disability as his or her sibling, d) others with different disabilities, e) other caretakers, f) those who are in need or who are struggling, and g) others in general. Some of the specific effects participants mentioned are a passion for advocacy and a desire to

actively fight for better care (relationship with others with disabilities), and a negative view of bullying (relationship with those who are in need or are struggling).

Following the analysis of the affirmative participant responses, the negative participant responses were processed using the same method. There were far fewer negative responses than affirmative responses. See Appendix D for a complete outline of all response categories generated for these negative replies. Those who indicated that they did not feel having a sibling with a disability had made them a better person generally fell into two categories: those who were unaffected (or only slightly affected) by their sibling's disability and those who believe they were negatively affected by having a sibling with a disability.

There were four reasons that participants indicated they were unaffected by having a sibling with a disability: a) the sibling's disability was too mild to have an effect, b) the age difference was so large it made the disability irrelevant, c) parents treated both siblings the same (despite the disability) and this equal treatment nullified any effect the disability might have had, and d) the argument that the traits that developed were not a result of the circumstances, and were instead natural traits that were merely augmented. In analyzing the responses from siblings who were negatively affected by having a sibling with a disability, three subcategories emerged. First, for at least one participant a sibling with a disability (bipolar disorder) had directly caused physical and emotional pain. Second, many participants felt that they were overlooked by and received less attention from their parents as a result of having a sibling with a disability. Finally, participants also indicated that they were frustrated and burnt out from years of dealing with the same problems. One participant even expressed the belief that those who ask for

help are weak and do not really need help: “They can overcome difficulties on their own if they try hard enough.”

Discussion

Despite the literature that suggests birth order may have an effect on the psychosocial outcomes observed in an individual who has a sibling with a disability (Bat-Chava & Martin, 2002; Bellin et al., 2009; Bellin & Rice, 2009; Grissom & Borkowski, 2002; Jones et al., 2006; McHale & Gamble, 1989), no significant influence on empathy and compassion was observed to result from these variables. Despite several studies which suggest higher levels of jealousy, anger, guilt, resentment, worry and parental conflict in individuals who have younger siblings with disabilities (Bat-Chava & Martin, 2002; Grissom & Borkowski, 2002; Jones et al., 2006; McHale & Gamble, 1989), attributes that would likely deter the cultivation of compassion and empathy, participants who were older than their disabled sibling were not significantly less empathetic or compassionate. In addition, individuals who are younger than their brother or sister with an impairment have been predicted to have more negative relationships with their sibling (Bat-Chava & Martin, 2002; Grissom & Borkowski, 2002), which is a risk factor for negative psychosocial outcomes and would prevent the development of more positive outcomes (such as empathy and compassion). However, participants who indicated they were younger than their sibling with a disability were not significantly less empathetic or compassionate than participants who were older than their disabled sibling.

This study also found no significant difference in empathy or compassion as a result of disability type. Despite several studies that indicate disability type and severity play a complex role in a sibling’s psychosocial outcomes (Bellin et al., 2009; Bellin &

Rice, 2009; Grissom & Borkowski, 2002), this study found that classification of disability had no influence on the selected measures. The effect of gender dyads—whether participants were the same gender as their sibling—was also found to be non-significant. This finding is consistent with the conclusion reached by Bat-Chava and Martin (2002), who found no difference in outcomes based on whether well siblings were the same gender as their sibling with a disability, but contradicts the research conducted by Bellin and Rice (2009).

However, a significant effect on empathy and compassion resulting from participant gender was observed. These findings are consistent with the findings reported by Davis (1980). Davis reported that his study indicated significant differences in scores across gender for all four IRI subscales, with the largest mean difference exhibited on the Fantasy Subscale (FS). The largest mean difference between genders in this study was also observed across the FS variable (1.58). The significant gender effect Davis observed for the Empathetic Concern Subscale (EC) was also replicated in this study; however, female scores on the Perspective-Taking Subscale (PT) and the Personal Distress Subscale (PD) were not *significantly* higher than male scores on the same subscales (although they were higher). These results are also consistent with the body of knowledge about the effects of gender on empathy extant in the literature: women have consistently been shown to display higher scores on measures of empathy. Thus, despite the conclusion that females displayed higher scores on the IRI measure of empathy, this pattern of results is consistent with previous literature that has indicated empathy is consistently higher in all females (Davis, 1980). It would be incorrect to conclude that the

elevated empathy that was observed was the result of the participant's experience of having a sibling with a disability.

Although the effects of the other quantitative variables (aside from gender) were not found to be statistically significant, it cannot be concluded that they do not influence the psychosocial outcomes of having a sibling with a disability. It is entirely possible that the limitations of this study resulted in an underestimation of the effect of one or more of these variables. However, considering the mixed conclusions of previous research, and the large sample size included in this study, the possibility that these factors do not have a significant effect on the empathy and compassion that result from having a sibling with a disability should be considered. Further research should investigate this prospect.

The qualitative analysis that was conducted indicated that many individuals who have a sibling with a disability *do* believe they are better because of their experiences. It has also provided future studies with an extensive list of naturalistically generated psychosocial benefits to having a sibling with a disability that should be investigated. Several of the gains that participants mentioned are absent from the current literature and should be the focus of future study. For instance, empathy and patience were two of the most common themes apparent in participants' responses and although empathy is consistently mentioned in the literature (Bat-Chava and Martin, 2002; Bellin et al., 2009; Bellin and Rice, 2009; Caplan, 2011; Jones et al., 2006; McHale & Gamble, 1989), patience is suspiciously absent. Several other characteristics participants frequently identified in their qualitative responses include maturity and responsibility, tolerance and reservation of judgment, and the desire to protect and defend those who are at a

disadvantage. Researchers have investigated few of these topics as evident psychosocial benefits of growing up with a sibling with a disability.

In addition to these trait characteristics, qualitative analysis also exposed the complex dynamics involved in the development of positive outcomes. Not only do individuals who grow up with siblings with disabilities gain productive qualities, they also convey a unique admiration and appreciation for various aspects of life, express adamant beliefs concerning persons with disabilities and social justice, and possess valuable skills and knowledge that set them apart from their peers. These assets seem to develop from a variety of sources and experiences, and the psychosocial benefits exhibited by these individuals are lived out in multiple settings and relationships. For example, many participants cited the fact that they were older siblings as one of the reasons they had a desire to protect the weak (resulting from their practice protecting their younger sibling). These responses indicated that there *are* demographic variables at play that should be further assessed. The complex and unique interplay of variables and outcomes common to many individuals who have a brother or sister with a disability has barely been touched upon in the literature thus far, and the information described in this study is certainly inadequate in its investigation of this matrix. Further research is undoubtedly necessary.

There are several limitations to this study that should be noted. First, because the measures used are self-report scales, it is possible participants displayed a demand characteristic effect. Participants may have rated themselves higher on the measures than is accurate because the measured constructs are both socially encouraged qualities. In future research, an alternate system of data collection may be considered to avoid this

problem. Second, the quantitative element of this study is essentially correlational. No causation can be determined because no method was employed to identify time-order precedence between variables. It was assumed that any variation in scores of empathy and compassion would be the result of the demographic variable in question since all participants had a sibling with a disability, but mediating factors may play a role in the results and various possible confounding variables were not controlled. A third limitation of this investigation involves the Likert scales used to measure responses to the IRI and CFOS items. The sizes of the scales used during this study differ from those usually employed when the IRI and CFOS are administered, which prevents comparison between participant responses and the typically-developing samples presented in previous research. Finally, it is possible that the presentation of the survey and the wording of the inquiry influenced responses to the qualitative variable.

Discovering evidence of positive psychosocial characteristics associated with having a sibling with a disability may have many significant repercussions. The implications of this study are two-fold. The quantitative analysis using demographic variables is useful to the applied fields of psychology. Bellin and Rice (2009) emphasized that further exploration of the risk and protective factors that predict negative and positive outcomes is necessary to encourage the resilience of the sibling dyad and the psychosocial development of both individuals. A better understanding of the variables that play into an individual's experience with a sibling with a disability is undoubtedly necessary for better adapted counseling, teaching, and parenting (Abrams, 2009; Bat-Chava & Martin, 2002; Bellin et al., 2009; Bellin & Rice, 2009; Caplan, 2011; Grissom & Borkowski, 2002). In addition, the qualitative dimension of this research provides

psychologists with greater insight into the unique experience of individuals who have a brother or sister with an impairment. It is to be hoped that the results of this study will spark further investigation into the psychosocial themes that have been identified following analysis of the participant responses.

Perhaps the most important result of this direction of research is that it may encourage those still affected by having a sibling with a disability. Grissom and Borkowski (2002) noted the predominance of the maladjustment view of this familial experience, which focuses primarily on the negative outcomes of sibling relationships. This stress placed on psychopathology undoubtedly emphasizes the difficulties of growing up with a sibling with a disability. When the research indicates that there are so many negative effects associated with having a sibling with a disability, it is easy for individuals who grew up with a sibling with a disability to become discouraged. Hearing that they are more likely to suffer unhealthy consequences because of their familial situation may lead these individuals to fall into the observed pattern of psychosocial distress. But as Caplan (2011) suggested, awareness and reframing of these issues and dilemmas can encourage the development of a healthier trajectory. It is possible that providing hope for a more adaptive future can inspire these individuals to defy the norm.

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Appendix A

Demographic Questionnaire (adapted from Sperber, 2008)

-
1. What is your gender?
 2. What is your age?
 3. Have you been diagnosed with a physical, mental, emotional or learning disability?
 4. If so, what type of disability? Please check (✓) all that apply.
-

Physical Disabilities

- Deafness
- Vision Impairment
- Mobility Disability
- Diabetes
- Seizure Disorder
- Other physical disorder(s)

Mental Disabilities

- Mental Retardation
- Brain Injury
- Schizophrenia
- Other mental disability(s)

Emotional Disabilities

- Depression
- Bipolar Disorder
- Other emotional disability(s)

Learning Disabilities

- Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD)
 - Dyslexia
 - Autistic Spectrum Disorder
 - Other learning disability(s)
-
5. How many children are in your family (including your step and half siblings)?
 6. Please indicate your birth order (first, second, third, etc.).
 7. Has one of your siblings been diagnosed with a physical, mental, emotional or learning disability?
 8. If so, what type of disability? Please check (✓) all that apply.
-

Physical Disabilities

- Deafness
- Vision Impairment
- Mobility Disability
- Diabetes
- Seizure Disorder
- Other physical disorder(s)

Mental Disabilities

- Mental Retardation
- Brain Injury
- Schizophrenia
- Other mental disability(s)

Emotional Disabilities

- Depression

- Bipolar Disorder
- Other emotional disability(s)

Learning Disabilities

- Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD)
 - Dyslexia
 - Autistic Spectrum Disorder
 - Other learning disability(s)
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9. At approximately what age was your sibling diagnosed with the disability?
 10. What is your sibling with a disability's gender?
 11. What is your sibling with a disability's age?
 12. Please indicate your sibling with a disability's birth order (first, second, third, etc.).
 13. Did your sibling with a disability live at home with you?
 14. If so, for how many years did your sibling with a disability live at home with you?
 15. Do you have more than one sibling who has been diagnosed with a disability?
 16. Please describe your parents' marital status. Please check (✓) one answer.
 - Never Married
 - Married
 - Divorced
 - One or both are remarried
 17. Do you feel that your sibling with a disability received significantly more attention and care than you from either or both of your parents?
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Appendix B

Interpersonal Reactivity Index (Davis, 1980; Davis, 1983)

Fantasy Items

1. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
 2. I really get involved with the feelings of the characters in a novel.
 3. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (-)
 4. After seeing a play or movie, I have felt as though I were one of the characters.
 5. I daydream and fantasize, with some regularity, about things that might happen to me.
 6. Becoming extremely involved in a good book or movie is somewhat rare for me. (-)
 7. When I watch a good movie, I can very easily put myself in the place of a leading character.
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Perspective-Taking Items

8. Before criticizing somebody, I try to imagine how *I* would feel if I were in their place.
 9. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (-)
 10. I sometimes try to understand my friends better by imagining how things look from their perspective.
 11. I believe that there are two sides to every question and try to look at them both.
 12. I sometimes find it difficult to see things from the "other guy's" point of view. (-)
 13. I try to look at everybody's side of a disagreement before I make a decision.
 14. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
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Empathetic Concern Items

15. When I see someone being taken advantage of, I feel kind of protective toward them.
16. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (-)
17. I often have tender, concerned feelings for people less fortunate than me.
18. I would describe myself as a pretty softhearted person.
19. Sometimes I don't feel sorry for other people when they are having problems.
(-)
20. Other people's misfortunes do not usually disturb me a great deal. (-)
21. I am often quite touched by things that I see happen.

Personal Distress Items

22. When I see someone who badly needs help in an emergency, I go to pieces.
23. I sometimes feel helpless when I am in the middle of a very emotional situation.
24. In emergency situations, I feel apprehensive and ill-at-ease.
25. I am usually pretty effective in dealing with emergencies. (-)
26. Being in a tense emotional situation scares me.
27. When I see someone get hurt, I tend to remain calm. (-)
28. I tend to lose control during emergencies.

Note. Items scored in reverse fashion and denoted by a (-).

Appendix C

Qualitative Analysis of Affirmative Responses

I. Origin – Why the traits developed:

- A. Close, prolonged or daily contact with sibling
 - B. Teaching a sibling
 - C. Trying to understand or love a sibling
 - D. Parental example
 - E. Sibling example
 - F. Sharing struggles with a sibling and with family
 - G. Being older or younger than a sibling with a disability
 - H. Exposure to a wider variety of personalities/situations
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II. Traits – The results of having a sibling with a disability:

- A. *Appreciation and admiration that develop*
 - 1. Diversity and the uniqueness of the individual human being
 - a. Seeing the beauty in imperfection
 - b. Amazement at how incredible people can be
 - c. Feeling that differences make things more exciting and interesting
 - 2. The dignity, positive attitude, and strength of persons with disabilities and their caretakers
 - a. Resolve in the face of hardship and daily struggles
 - b. The ability to show unconditional love
 - i. Seeing this as a reflection of God's image
 - 3. Experiencing the importance of love and support
 - a. Appreciation of the human capacity to cooperate and help one another
 - b. Growing closer to family
 - 4. Appreciation and gratitude concerning their own circumstances and abilities

- a. The “little things” no longer taken for granted
5. Acknowledgement of how having a sibling with a disability has affected them and who it has made them
 - a. The trait possessed as a result of having sibling with a disability is integral to, or an important part of, personal identity
 - b. The traits gained are valuable, important or good
 - c. The traits would not be present if it were not for having a sibling with a disability: “I wouldn’t be the same person”

B. Beliefs that are adopted

1. General beliefs
 - a. Life is precious and you should value every moment of it
 - b. There is no shame in dependence or in asking for help
 - c. Mean, ignorant, and hurtful people, attitudes, and beliefs *do* exist
 - d. Believing anyone can accomplish anything
 - i. Especially with support of family/friends/God
 - ii. Everyone has potential
2. Spiritual beliefs
 - a. We each have a God-given purpose and those with disabilities just have unique purposes because of their differences
 - b. Those with disabilities have value because they were made in the image of God
 - c. God is miraculously powerful
 - d. God can carry you through any circumstance
3. Beliefs about those with disabilities
 - a. Those with disabilities are “normal” and not inferior, they deserve respect
 - b. Those with disabilities have a unique perspective and talents or gifts that others do not and so in some ways they have the advantage over others
 - c. Those with disabilities are just as capable of being happy and enjoying life

4. Beliefs about social policy and how to treat others
 - a. Everyone should be treated with equality
 - b. Everyone is different, and you should treat each person as an individual, keeping those differences in mind
 - i. Differences include problems, solutions, ways of learning, speed, “story,” etc.
 - ii. Differences are not bad, no one is perfect
 - iii. Not all children should be raised the same way
 - c. Acknowledgement of uncontrollable circumstances: we cannot assume that someone had a choice or acted intentionally
 - d. The importance of patient communication
 - e. There is a standard of care each child with a disability should be entitled to

C. Character traits that are produced

1. Selflessness and a desire to help others
 - a. Becoming less concerned with yourself and more concerned about others
 - b. Learning to care for others because you want to, not because you have to
 - c. Feeling parental: learning to be nurturing or fatherly/motherly
 - d. Wanting to make the world a better place or to create a better environment for those with disabilities
2. Empathy and compassion: identifying with the heartache of others
 - a. Awareness of the struggles and pain others are experiencing
 - b. Increased caution and sensitivity in social relationships
3. Patience and forgiveness
 - a. Loving despite irritations and frustrations
 - b. Looking beyond behavior to intention
4. Awareness and acceptance of circumstances
 - a. Heightened awareness of situations and surroundings
 - b. Viewing things realistically and realizing life isn't always fair

- c. Reliance on God's provision
- 5. Joy and dignity in the face of adversity
 - a. Optimism and a loving attitude no matter the circumstances
 - b. Taking things as they come with grace and poise
- 6. Strength, endurance, and determination
 - a. Rejection of negativity and doubt; refusal to quit
 - b. Encouraging others to persevere
- 7. Maturity and responsibility
 - a. Learning to be independent
 - b. Growing up quickly
 - c. Becoming a leader
- 8. Tolerance and reservation of judgment
 - a. The ability to "step back" and see things from someone else's perspective
 - b. Open-mindedness
 - c. Wisdom and patience in making decisions and choosing sides
- 9. Protecting and defending those who are at a disadvantage
- 10. Drive to use their own capabilities and talents
 - a. Usually in contrast to their sibling, who lacks some of their abilities

D. Knowledge, skills and abilities that are acquired

- 1. Social skills
 - a. How to better relate to others
 - i. Heightened perception and intuition
 - ii. The ability to look beyond surface traits and see who people really are and to understand the motivations of others
 - b. Awareness of acceptable and unacceptable social behaviors (in one's self and in others)
 - c. Being able to handle unfamiliar or uncomfortable situations

- i. Learning how to be comfortable around those with disabilities
 2. How to better help others
 - a. Better prepared to help others who have disabilities
 - i. In a family setting
 - ii. In a social setting
 - iii. In a vocational setting (e.g. teaching)
 - b. The ability to teach others (often because of teaching a sibling)
 - i. Learning to adapt materials and situations to fit the specific needs of others
 - ii. Being able to explain to others the reality concerning those with disabilities and teach them how to act around those with disabilities
 - c. Parenting behaviors and skills
 - i. How to effectively arbitrate disagreements
 3. Life skills
 - a. How to be adaptable and flexible
 - b. How to manage stress and cope with difficulties
 - c. Problem-solving skills
 - d. How to self-monitor in order to keep from hurting others
 - e. To avoid consequences of anti-social or unacceptable behaviors exhibited by siblings
 4. General knowledge
 - a. Medical knowledge
 - b. Knowledge and awareness about a sibling's disorder or disabilities in general
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III. Effect – What relationships are affected by the traits:

- A. Sibling
- B. Family
- C. Those with the same disability as a sibling

D. Others with disabilities

1. Advocacy or actively fighting for the “cause”

E. Other caretakers

F. Those who are in need, who are struggling, or who seem “helpless”

1. Negative views of bullying

G. Others in general

Appendix D

Qualitative Analysis of Negative Responses

I. Those who were unaffected (or only slightly affected) by their sibling's disability

- A. Sibling's disability was too mild to have an effect
 - B. The age difference was so large it made the disability irrelevant
 - C. Parents treated both siblings the same, despite the disability, and it nullified any effect the disability might have had
 - D. Traits were not a result of circumstance: natural traits were augmented
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II. Those who believe they were negatively affected by having a sibling with a disability

- A. Physical or emotional pain was caused by a sibling with a disability
 - B. Received less attention from parents or felt overlooked and less important
 - 1. Had to learn to protect and take care of themselves because they felt others would not
 - 2. Resulted in an insecure attachment
 - a. One participant mentioned pushing others away because she could not trust them to take care of her, then becoming clingy and depressed because of her need to be comforted by others
 - C. Frustration and burnout
 - 1. After years of dealing with the same problems, patience and compassion ran out and they became less understanding
 - a. Resulted in the belief that those who ask for help are weak and don't really need help: "They can overcome difficulties on their own if they try hard enough"
 - 2. Having a similar disability or problems negated any sympathy for their sibling's situation
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