

Individuation and Empathy: A Mixed Methods Study of Twin Adolescents

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Abstract

Twinship has been recognized as interfering with the separation-individuation process, in which familial dependency is reduced for individual development. One way in which experts have approached this complication is by promoting twin treatment similar to that of nontwins. Where their agreement usually ends, however, is on the question of what constitutes this treatment, and how it affects emotional well-being into adolescence and beyond. Twins (n=29) and nontwins (n=25) ages 13-19 were recruited using purposeful sampling. Participants completed a 20-question survey developed by the researcher to collect quantitative and qualitative information about sibling individuation, empathy, sympathy, and enmeshment. Pearson's chi-squared tests (χ^2), Fisher's exact tests, odds ratios, and associations were applied to sets of categorical data to measure frequencies for the individuation and enmeshment constructs. For the embedded qualitative questions about empathy and sympathy, 6 themes emerged from 75 significant statements. Experiences of empathy and sympathy in sibling relationships encompassed achievement, punishment, health, peer relationships, adjustment, and general. Concerning individuation, twins were found to share a room, be compared by others, have the same friends, and dress alike in childhood significantly more often than their nontwin counterparts ($p < .05$). In spite of these less individualistic treatments, no sibling status-based differences in enmeshment-related behaviors were found ($p > .05$). However, associations were found between certain forms of collectivist treatment and frequency of comparisons, which twins claimed negatively affected their twinship. These results suggest that some of the individuation strategies emphasized by twin experts are not as central to promoting intersibling well-being as others less widely emphasized, such as avoiding comparisons.

Literature Review

Twin births are estimated to occur 33.3 times per 1,000, increasing from 18.9 per 1000 since 1980. This increase is likely attributed to the increased usage of in vitro fertilization and other assisted reproductive technologies (Elflein, 2019). Identical, or monozygotic, twins occur around every 3-4 births per 1,000 when a zygote splits in half around 2 weeks following conception. Monozygotic twins share 100% of their genetic code on average, and are always same-sex. Fraternal, or dizygotic twins, occur around twice as frequently as monozygotic twins, and result from the release of 2 zygotes during conception. Dizygotic twins only share approximately 50% of their genetic code, the same as non-twin siblings, and can either be same or opposite-sex (Washington State Twin Registry, n.d.).

Despite the practically identical genetic code of monozygotic twins, they have different personalities, health, and sometimes appearances. These differences often become more apparent throughout the lifespan due to the influence of epigenetics, which describes the effect of prenatal and postnatal experiences on the human genome (Powledge, 2011). In spite of these biological differences, society continues to emphasize the behavioral similarities of twins, including their alleged synchronization of thoughts, dreams, feelings, as well as their secret communication (Frost, 2015; Kohl, 2001). Their unit identity is also outwardly emphasized by alliterative names and identical or similar clothing, which, based on the numerous sites suggesting these coordinating names and outfits, remain popular among parents of twins into the present (Fierro, 2019; *Twin Baby*, 2018). Even dressing nontwins alike is becoming more trendy, demonstrated in the rising number of clothing lines selling coordinated outfits ("First Day," 2018). Experts of twins have been suggesting for the past 50 years that dressing twins the same and giving them

similar names deprives them of their individuality, and many continue to advocate this position (Friedman, 2008; Wilson, 2017).

Many parents of twins who do dress their twins the same as infants say that it is generally not harmful in the long-term for aesthetic or convenience purposes, as long as the parent is willing to stop dressing their twins the same when their twins object (Bacon, 2006; Cartwright, 2018; Gurevich, 2018; Wilson, 2017). Some adult twins have even reported liking being dressed similarly as children, or that they did not mind as long as it was not done as they aged (Bacon, 2006; Conlon, 2009; Määttä, Päiveröinen, Määttä, & Uusiautti, 2016). There are even some twin sets who choose to dress alike as adults (Mitchell, 2014). However, even if the twins will initially not recognize that they are dressed identically, some twin experts claim that it might make separation more difficult and distressing as the twins age, or may exacerbate competition or a lack of confidence due to similarity (Wilson, 2017). Even then, there are parents who argue that dressing their twins the same actually forces them to know their children more as individuals due to having to recognize their subtle differences in order to tell them apart (Cartwright, 2018). Although this may be true, twin experts such as Nancy Segal argue that twins should be dressed at least somewhat differently so that they can be called by their proper name, and should only be allowed to dress alike on special occasions (Davies, 2011).

Individuals less close to twins can also affect twins' identification as a unit, however, through comparisons, unifying names, and attempted fair treatment. According to the testimonies of twins, it is often society that insists on comparing them notwithstanding parents' attempts to individualize them (Conlon, 2009). Comparisons can result from a variety of factors, including twins' outward expression of closeness, maintenance of relationships with the same people, and

twins' differences conflicting with societal ideals of sameness (Fotheringham, 2000; Määttä, Päiveröinen, Määttä, & Uusiautti, 2016).

Comparisons can also be a well-meaning attempt by parents to differentiate between their two children (Friedman, 2008). Twins have described comparisons as one of the most despised characteristics of their twinship, leading them to compare themselves, disdain or disassociate from their co-twin, or put forth less effort toward the subject in which they were compared (Fotheringham, 2000; Pietilä, Björklund, & Bülow, 2012; Segal, 2017). These twins may develop "split identities," in which they identify themselves as opposite from their co-twin. This divide might lead to narcissistic tendencies in one twin and low self-esteem in the other, which can be difficult to overcome (Schave & Ciriello, 1983).

Identical twins who were compared in youth have also developed draining relationships of dependency, high intimacy, imbalanced role-taking, maladaptive conflict-resolution, verbal and physical hostility, and interference of the co-twin in romantic relationships (Pietilä, Björklund, & Bülow, 2012). Twin experts have emphasized recognition of each twin's strengths and achievements in order to avoid these adverse outcomes (Friedman, 2008). Unit identities can also be enforced within the twinship by names inspired by oneness, such as being referred to as the "twins," or nicknames formed by combining each twin's name, which are often coined to avoid the embarrassment of calling one twin by the wrong name (Conlon, 2009; Friedman, 2008). A few twins have reported feeling no resentment toward being viewed as one person, although it has been described as bothersome for others (Conlon 2009; Fotheringham, 2000).

There are also some twins that disagree with Friedman's philosophy completely, arguing that Friedman forgets twins' communal identity by focusing on a singleton concept of

individualism as well as strictly public expressions of identity, stating that individuality cannot be “worn like clothes.” They also protest that it is impossible to change a twin’s awareness of themselves as a separate being, and that differences between twins can be easily detected if each is interacted with separately (Dawood & Dawood, 2018).

Parenting strategies emphasizing individuality of multiples have developed beyond dressing and naming twins, however. Debates concerning classroom placement and the extent of too much togetherness for twins have emerged in the past few decades as well, and the consequences of these decisions remain unclear. Twins have reportedly been separated since as early as the mid-20th century (Conlon, 2009). Twin separation is believed by many experts and school faculty to foster the development of individuality (Friedman, 2008).

Many schools and experts do acknowledge the inappropriate nature of a one-size-fits-all policy, however, and thus prioritize the development of emotional security over mandatory immediate separation, with post-kindergarten being a common time for separation. Some twins reported being more fairly treated and less compared by teachers when separated, and many teachers could recount instances of one twin dominating or carrying the co-twin emotionally or academically until they were forced to be independent. However, these accounts came from a small sample size of 1st through 3rd grade twins in South Africa, and may not be applicable to twins in the United States (Malan, 2014).

Separation in school can be traumatic for twins, and can be marred by reluctance and force (Fotheringham, 2000). In order to avoid the onset of trauma, some experts and schools suggest prior fostering of social independence inside and outside of school, such as having twins join separate playgroups or study groups (Fotheringham, 2000). Some experts even suggest

separating twins as early as preschool after a semester of togetherness to allow for self-discovery and to avoid diminishing each twin's sense of self by relishing the group identity (Friedman, 2008).

Many experts acknowledge, however, that these decisions might be best made on a case by case basis, since some twins work well together. Although, they should still be given sufficient opportunities within the classroom to meet new people (Davies, 2011). Many parents of twins have consequently pushed for the enactment of twin laws that enforce flexible separation policies for twins and higher-order multiples, these campaigns achieving success in states such as Minnesota, Illinois, Texas, Georgia, and Oklahoma (CHAPTER 33-S.F. No. 180, 2005; HR0770, 2006; 70 OK Stat § 70-24-154, 2008). There are currently 14 states with twin laws, and another 11 with pending legislation or sponsored bills awaiting review (Fierro, 2019).

Separation of twins can sometimes be based on stereotypes, such as the existence of a weaker twin (specifically the younger twin), twins completing each other, being emotionally dependent on each other, or engaging in fierce competition (Malan, 2014). These stereotypes have been used to accuse parents who choose to place their twins in the same classroom of wishing to enforce codependency within the twin relationship, (Dolan, 2018). This codependency has been observed more frequently in monozygotic than dizygotic twins, with monozygotic twins being more likely to seek out their co-twin as a playmate, and more in same-sex than opposite-sex twins (Malan, 2014).

The degree to which twins should share other resources has also become a contested topic in twin research. For example, twin experts, such as Dr. Friedman, suggest that, ideally, twins should have separate rooms, cribs, and dressers from birth to enable self-expression. On

the other hand, sleep consultant and mother of twins, Jenn Kelner, claims that it makes more sense to place twins in the same room, unless the house has many spare bedrooms, to foster the twin bond and allow for the twins to acclimate to each other's sounds (n.d.). Twins in one study who reported sharing a bed and bedroom, by way of example, described an inimitably extreme closeness and intimate honesty with their co-twin (Fotheringham, 2000). However, many experts also believe that opposite-sex children should not share a room once they have reached puberty to respect their need for privacy (Richardson, 2018).

Friedman also advises parents to encourage their twins to pursue their own friendships and interests to help their children and teens to discover and define themselves as individuals, although different activities should not be forced. Socializing with others, according to Friedman, enables the execution of one's own desires, abilities, and goals, which can be negated by too much togetherness. She also contests that twins should be taught *not* to share, since they already have to share the womb, parental experiences, and often the same bedroom, and because too much sharing can inhibit twins' ability to develop individually (Friedman, 2008). It should be noted, however, that one qualitative study found that twins who shared leisure activities, interests, and emotional closeness growing up characterized their twinship as a source of support, open communication, and cooperation, and were still able to easily transition into separate marriages, careers, and decisions (Pietilä, Björklund, & Bülow, 2012).

These contested concepts of sharing, unifying names, and identical dress have emerged from pressing concerns over proper separation-individuation in twins. Separation-individuation was first defined by Margaret Mahler in 1975, in which "separation" is the process of breaking from a symbiotic fusion with the mother and "individuation" is the process of recognizing

oneself as having distinct accomplishments and characteristics, both of which take place from 1 to 3 years old.

Peter Blos expanded the theory to adolescence in 1979, naming it the second stage of separation-individuation, in which familial dependency is reduced in favor of assimilation into society, mood and self-esteem become less subject to change, and goals are more closely realized. He stated that failure to complete this cycle could result in acting out, procrastination, learning disorders, and a lack of purpose. Separation-individuation has been further extended to twinning, since it can sometimes obscure independent development (Schroeder, 1989). The challenge can be exacerbated when twins who have been treated as a unit throughout their lifespan attempt to separate as adults, experiencing far more distress than twins who have been treated as individuals from infancy. As a consequence, the separation-individuation process is often left incomplete, leaving many twins with difficulties forming new relationships with nontwins well into adulthood and an uncertain self-image (Siemon, 1980).

Nancy Segal (2017) claims that this formation of a separate identity is most difficult for identicals, since even same-sex fraternal twins have different tastes, talents, and appearances. On the contrary, in one study, fraternal twins scored significantly higher on scales reflecting seeking of nurturance and symbiosis, indicating that fraternal twins had greater complications for identity achievement (Schroeder, 1989). Additionally, Ricardo Ainslee argued that zygosity and physical similarity are less prominent causes of inter-twin identification than the simultaneous presence of two infants due to the strengthening of an inter-twin bond during the separation-individuation “rapprochement” phase, in which separation from the mother and linguistic development are normally fostered. These vital advancements are subsequently delayed in identity-formation,

which can further complicate inter-twin confusion, separation anxiety, and role differentiation, as well as diminish verbal intellect into formal education (Ainslee, 1997; Bishop & Bishop, 1998).

Opposite-sex twins, according to Nancy Segal, are separated by default due to their likely divergent interests and physical dissimilarity. She claims, then, that as long as the female twin, who tends to develop at a faster intellectual and physical pace, allows the male co-twin to develop his own personality, each twin's identity should develop naturally (2017).

According to one qualitative study, opposite-sex twins experience their closeness as non-twin siblings, and were the only twin type to not experience any degree of interdependence (Schave & Ciriello, 1983). Some twins themselves have even asserted that facial similarity is a very considerable factor affecting the development of individuality, going as far to say that twins who do not look alike "live differently" because their twinship can be revealed as they choose (Conlon, 2009). Furthermore, some twins, as a consequence of their similarity, felt obligated to execute actions resembling their co-twin due to the fear of differences fomenting envy (Määttä, Päiveröinen, Määttä, & Uusiautti, 2016).

Adolescence is recognized as the most contentious period in identity development for twins, especially for those who have not been treated as individuals earlier in their lives. These twins may feel an urgent need to separate from their co-twin, and often also rebel against their parents. Twinship may become an undesirable social stigma, with many twins wanting to, more than ever, distinguish themselves from their co-twin (Friedman, 2008). For example, twins may forcefully separate their clothing in spite of their similar styles (Määttä, Päiveröinen, Määttä, & Uusiautti, 2016).

The vast majority of twins cope with their adolescence in a mostly healthy manner. Nevertheless, there are still many twins who experience frequent bouts of conflict, fierce competition, or abated achievement as a consequence of their co-dependency (Bryan, 1998). These challenges often stem from parents overromanticizing the twin relationship, giving into the belief that twins do not like to be separated, and that separation can damage the twinship. This assumption misleads parents into relying on their twins to take care of each other, which can cause their children to form primary attachments to each other as opposed to with their parents, which puts them at risk of becoming unable to comfortably embark on separate life paths, fully express their personalities, maintain intimate relationships, and find security in aloneness (Friedman, 2008, n.d.). This perception can mold the twin relationship into a dysfunctional unit from infancy, in which each twin identifies with half of a personality or does everything the same way, or into an emotionally supportive interdependency in which lines are blurred between each sibling (Schave & Ciriello, 1983).

Many twins revealed a frustration with these stereotypes depicting twins as feeling the same way and having the same thoughts, which often resulted in others believing that they always longed for the other's company regardless of already being together much of the time. On the other hand, some twins believed that the largest rifts in their relationships occurred due to dissimilar experiences (Fotheringham, 2000). Furthermore, Dr. Perlmann (2016), a psychologist working with twins and a twin herself, alleges that twins feel a longingness to separate from their twin, but also to be in their twins' presence to avoid the loneliness of individualism. She also maintains that separation difficulty is positively correlated with identical appearance.

Some twins have described their individuality as both a challenge and as an entitlement, in which twins function as fulfilled individuals whose choices have still been influenced by their co-twin (Määttä, Päiveröinen, Määttä, & Uusiautti, 2016). Although there is an inherent difficulty in responding sensitively to two infants with different needs, parents have in the past fashioned systems allowing for one child to be tended to at a time, such as assigning each parent to a different twin or by each parent becoming involved with one twin in a qualitatively different way (Ainslee, 1997). Dr. Friedman (2008) suggests that plans to provide each child with separate, similar experiences should be made before their birth, as this alone time is necessary for an adequate parent-child relationship to be formed and for self-discovery to occur due to exposure to diverse perspectives. Despite these warnings, some parents still insist on treating their twins as a unit in spite of their capability to function separately (Malan, 2014).

Twinship is often described as containing a large degree of empathy due to twins being raised in such close physical and emotional proximity, this synchronization apparently posing challenges for twins as they struggle to focus on their own needs and practice self-care (Friedman, n.d.-a). Schave and Ciriello (1983) viewed the development of empathy within twin relationships conversely, as an effect of parents distinguishing between twins and allowing for closeness and competition to develop between them, rather than as a default hindrance, instead resulting in intertwin encouragement and satisfaction in their individual accomplishment.

Dr. Klein confirmed societal tendencies to view twins as perfect role models of empathy and understanding, when in fact twins whose individualities were overlooked have relationships instead plagued by enmity and enmeshment. Dr. Friedman asserted that the best way to reduce these risks of enmeshment, as a consequence of the twins choosing twinship over their own life,

as well as estrangement, is to find a healthy balance between a shared and independent identity. An imbalance can result in feelings of betrayal and being ignored, as well as twin difficulties in not becoming over-involved in their co-twin's problems, or ignoring their twins' problems completely, which could inspire alienation (n.d.).

Klein similarly views twins' deep attachments as a risk for cultivating these excessive concerns, the most healthy response being to focus solely on understanding and reflecting on the co-twins ailments (n.d.-a). This process apparently requires self-other distinction (Klein, n.d.-b). Friedman also expressed that twins' compulsion to put the co-twin's needs before their own is often a consequence of a lack of separate experiences, which can turn to sharp conflict when one twin starts developing independently from the twinship and making their own choices (Friedman, n.d.). According to Dr. Klein, a lack of experiences away from the co-twin could also foment disappointment in their relationships with nontwins due to an expectation for verbal and nonverbal immediate understanding that sometimes cannot be fulfilled by the partner, and can hinder the growth of relationships outside of the twinship or proper intimacy with the spouse (Klein, n.d.-b).

The term "empathy" was coined by Edward Titchener in 1909 to describe contexts of aesthetic and interpersonal understanding. The word had been translated from *Einfuhlung*, the phonetic creation of Hermann Lotze, Robert Vischer, and Thodore Lipps in the nineteenth century. These authors all had slightly different interpretations of its usage. Lipps and Vischer view it as a subjective experience of aesthetics as well as a mirroring of an object in the observer's orientation, while Lotze saw *Einfuhlung* as a further understanding of creatures and objects due to a conscious awareness of personal attitudes in addition to being this lense of

artistic contemplation (Buse, Hirschkop, McCracken, & Taithe, 2005; Fogle, 1946; Montag, Gallinut, & Heinz, 2008).

The contemporary definition of “empathy,” according to *Merriam Webster*, is “the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner” (2019). It derives from the Greek *empathia*, with “en” meaning “in” and “pathos” meaning “relating to feeling” (Harper, 2019).

The psychological definition of “empathy” has become more ambiguous over time, which can be seen in Batson’s observations that, although students learning about empathy often agree that it is important, they have difficulty reaching a consensus on its definition, origin, reasoning for importance, and what effects it yields. Dr. Batson identified eight different common definitions of empathy, including “coming to feel as another person feels,” “knowing another person’s internal state...,” “feeling distress at witnessing another person’s suffering” and “intuiting or projecting oneself into another’s situation.” He claims that this abundance of definitions is a consequence of attempting to define empathy to embody the questions, “What Leads One Person to Respond with Sensitivity and Care to the Suffering of Another?” and “How Do We Know Another’s Thoughts and Feelings?” (2009).

Neuroanatomic definitions of empathy involve elements of personal distress, in which distress and the ability to elaborate on that distress intensifies with increased similarity and familiarity, and emotional contagion, in which one’s physical and mental representations are used to try to accurately understand the other (Preston & de Wall, 2002). Conceptions of empathy

based on morality believe it to mean an emotional response more appropriate to someone else's circumstances than one's own, and, in addition to supporting the presence of empathic distress and mimicry, expand the distress element as inspiring a motive of sympathetic or empathetic anger. Furthermore, moral perspectives on empathy attribute mimicry to universal similarity of thought process, and depict this undertaking, among dimensions of reflection on past and present, as completely unconscious (Hoffman, 2000). The mirroring is reportedly congruent in magnitude to that perceived in the positive or negative emotion evoking the retort, although the emotional nature of the mimicry has to neither be the same nor similar to that of the emotion being responded to (Batson, 2014).

Another experiment testing the relationship between shared physiology and empathy found a similar result, in which there was no correlation between having simultaneous expressions of empathy and matching magnitude of emotions (Levenson & Ruef, 1992). It is important to properly operationalize these divergent definitions because they can prompt different neurological reactions, such as empathy being defined as "imagining how you would feel" in comparison to the meaning of "imagining how another person feels." According to a 1997 experiment conducted by Daniel Batson, Shannon Early, and Giovanni Salvarani, participants who were asked to imagine 'how they would feel' experienced both empathy and egoistically-motivated distress, whereas those imagining 'how someone else felt' only experienced altruistically-motivated empathy .

The definition of empathy has perhaps been more consistent within the healthcare and counseling communities, where it is considered a form of labor requiring specific displays engaged in on both deep and surface levels (Larson & Yao, 2005). It involves a multitude of

dimensions, including antecedents of both situational and human variables, unconscious and conscious internal processes, intra and interpersonal outcomes, as well as physician outcomes. It has been defined as the equivalent of emotional detachment, in which someone's experiences are strictly borrowed and imagined in order to feel and understand them (Hardee, 2003). Different parts of this concept, affective and cognitive, have also been recognized. "Cognitive empathy" is cognitively understanding someone's feelings, while "affective empathy" is being able to, minimally, feel what someone else is feeling. Demonstrating empathy in professional settings such as counseling involves verbal and nonverbal communications of understanding (Grande, 2017).

Dr. Barret-Lennard also identified three distinct preconditions for the experience of empathy in therapy, starting with empathic listening, or an open attendance to someone expressing a certain emotion. Experiential resonance in the model then enables communicating understanding, permitting for the recipient to feel understood or relieved. The empathizer restating the object's feelings is an optimal channel for empathy, that, while not required, can allow for an association between the object's situation and state to be more easily made due to the possible usage of figurative language to more clearly get a sense of the subject's pain .

Empathic responses also change in accordance with the number of people being addressed, in which empathy toward relationship systems is not about one person's perspective but their communal frame of reference, leading to the attentiveness to three distinct "I, we, you" entities. The "we stream" is an expression of a joint being, which can eliminate differences between the "us," or the stream that speaks through each person due to a focus on the pair (1981).

Despite having a plethora of meanings, it is generally agreed that empathic engagement involves several fundamental, complex neurobiological systems. At the forefront of this discussion has been the discovery of mirror neurons in the late-twentieth century in the macaque monkeys' premotor cortex, which activate in the same way regardless of whether they are performing the action themselves (Gallese, Fadiga, Fogassi, & Rizzolatti, 1996). The existence of mirror neurons has since been directly proven in humans, as well as classified based on the degree of synchronization with facial expressions and identified as existing within other areas of the brain, including the parietal, temporal, frontal, and cerebral cortexes. Inhibitory neurons have been found as well, which suppress imitative behaviors during observation (Mukamel, Ekstrom, Kaplan, Iacoboni, & Fried, 2010).

Observing another person's emotions and pain has also been found to activate this motor mirror system, acting as if these emotions were being experienced firsthand. This witnessing of pain is also associated with activity in the insula and the anterior cingulate cortex, a part of the brain used for impulse control and decision-making. Experiments using placebos in comparison to actual pain drugs have proposed that personal experiences of pain affect perceptions of pain, in which subjects receiving a pain killer had less neural activity displayed in the functional magnetic resonance imaging (fMRI) scan than those ingesting the placebo. There are also brain regions, such as the right supramarginal gyrus, responsible for maintaining a *self-other* divide, providing evidence for the shared yet separate emotions defining empathy (Armstrong, 2018).

The provision of empathy can also differ across demographic lines, such as gender and age. Sex, in particular, continues to have an ambiguous association to empathy, especially because most gender-based differences found for empathy have been based on self-report

measures, which many claim yield biased results as a consequence of females unconsciously heeding sexist stereotypes. One experiment investigating these biases found that, while women scored significantly higher on the Interpersonal Reactivity Index, a questionnaire known to assess empathy, no significant difference in scores was found between males and females when the women were told that the test assessed social ability. The results also showed no significant differences between groups when controlling for social desirability bias (Nanda, 2014).

Women also seemed to score significantly higher than men on the Interpersonal Reactivity Index in several other scholarly examinations (García, Cetkovich, & Ibáñez, 2017; Mestre, Samper, Frías, & Tur, 2009). However, there have also been results showing higher empathy scores for women using somewhat alternative procedures, such as one study conducted by Laurent and Hodges (2008) involving both an empathic accuracy task and self-report measures. Women, even when gender roles were not made salient, were more empathic than their male counterparts. Furthermore, one experiment assessing mind-reading ability as a function of acquaintanceship found that women were generally better at mind-reading than men.

Higher empathic accuracy was associated with highly satisfying, long relationships, while the converse was true for short-term relationships (Thomas & Fletcher, 2003). Additionally, women scored higher than men on the Empathy for Pain Scale, rating themselves as having greater empathic concern and emotional distress for another experiencing pain (Tracy & Giummarra, 2017). This higher degree of empathy for women is supported on a neurobiological level, in which women's brains exhibited more activity in the somatosensory cortex than men--a part associated with the mimicry of pain (Christov-Moore & Iacoboni, 2018).

Nonetheless, there is still a large possibility that stereotype-identification is driving self-assessed empathy, influencing women's answers to empathic accuracy and expression surveys, perceptions of punishment for the victimizers, and levels of discomfort experienced while witnessing someone being harmed (Baez et al., 2017). Furthermore, the amount of contrary evidence for women having higher capacities for empathy still makes these conclusions difficult to draw, for even in self-report based studies, there have been no sex differences observed. Although, the experimenters still note that the usage of self-report measurements in these kinds of analyses are vulnerable to social desirability or lack of awareness of one's own empathy (Levenson & Reuf, 1992).

According to Hoffman, empathy is also variable across age groups, starting with the reactive newborn cry. This cry has been demonstrated as significantly more intense when in response to another newborn as compared to silence or a synthetic cry, and has thus been interpreted as a basic sign of empathic distress. This claim has been countered by empathy researchers who claim that this conclusion is premature, as there are several alternative reasons such as competition for comfort and food (Batson, 2009; Sagi & Hoffman, 1976).

Egocentric empathic distress develops among preverbal children at around the end of the first year, reacting to another's distress as if they themselves were in distress. Children then develop quasi-egocentric empathic distress early in the second year, in which they attain a greater sense of self-other distinction, but still react to others' distress by providing means of comfort appropriate to the observer as opposed to the distressed object. At the end of the second year, children experience a third stage called *veridical empathic distress*, in which they start to recognize that others have internal states different from their own, allowing for a greater

attainment of understanding for the observer. The last stage, empathy for others' experience beyond the current situation, allows for people to recognize the long term struggles of exploited groups, such as empathizing with groups from different geographical regions, time periods, and species. Many adults have not reached this stage and may never reach it (2000).

Empathic behavior has been increasingly viewed as teachable in the health-care community, which permits for the formation of programs focused on increasing its expression and feeling. Empathy often declines during medical school, for example, which has resulted in interventions designed to achieve empathic goals including increasing students' self-reports of empathy, as well as their knowledge of its physiological and interpersonal demonstration (Riess, Kelly, Bailey, Konowitz, & Gray, 2011). These programs use tactics such as providing advice on handling regular and problematic patient-doctor interactions, and are shown to significantly increase the students' understanding of empathic concepts in the short and long terms (Phillips, Lorie, Kelley, Gray, & Riess, 2012; Riess, Kelly, Bailey, Konowitz, & Gray, 2011). The effectiveness of these courses, however, is also contingent upon baseline empathy (with women generally scoring higher) and even student loan debt (Chen, Kirshenbaum, Kirshenbaum, Aseltine, 2012). Empathy has also been found to be partially heritable, an estimate narrowed to 52-57% for affective and 27% for cognitive by one twin study (Melchers, Montag, Reuter, Spinath, & Hahn, 2016). A global study of empathy using 23andMe, on the other hand, approximated a 10% genetic attributability (Warrier, 2018).

Sympathy is defined as "an affinity, association, or relationship between persons or things wherein whatever affects one similarly affects the other" (*Merriam-Webster's collegiate dictionary*, 2019). It comes from the Greek *sympatheia* for "fellow-feeling," which is derived

from the roots “syn-” meaning “together” and “pathos” meaning “feeling” (Harper, 2019). It is often immediate and emotional, and may involve shared feelings (although not all of them must be expressed). Sympathy, unlike empathy, responds to another’s suffering, with any elicited feelings being one’s own, whereas empathy responds to another’s feelings by first trying to feel someone else’s pain with self-other distinction (Wispé, 1968). Another very important medical distinction between empathy and sympathy is that while empathy can facilitate communication and care delivery, sympathy is emotionally exhausting and burdensome. Additionally, if the patient shares the emotions of the sufferer (i.e. demonstrates sympathy), they will be unable to help (Hardee, 2003). Dr. Grande, a mental health counselor, also describes sympathy as a sharing of feelings, but does maintain that its expression can be beneficial as long as it is not used excessively (2017).

There are consequences of demonstrating empathy and sympathy to an excessive degree, however, some of the most well-known being the possibility of developing *compassion fatigue* or *burnout*. Compassion fatigue in nurses may be felt as an indifference to work, detachment from colleagues and family, irritability and short-temperedness, and a loss of pride due to a sense of failure in treating patients. Symptoms can also include forgetfulness, physical and mental exhaustion, sleeplessness due to a failure to relieve a patient’s pain, queasiness, intense sadness, head or back aches, indecisiveness, an exaggerated sense of responsibility, excessively rigid or loose boundaries, decreased compassion toward those receiving help, and difficulty with personal relationships (Figley, 1995; Sheppard, 2016; Teater & Ludgate, 2014).

Compassion fatigue has been referred to by Dr. Charles Figley as the cost of caring. The larger a capacity someone has for empathy, the greater the risk they have for developing

compassion fatigue. It can apparently happen to any nurse, especially ones who tend to lose their personal boundaries, neglect self-care, or perform significantly more than what is expected (Sheppard, 2016). It can also be experienced in spite of finding many rewards in performing empathy-based work. Other factors increasing risk include longer exposure to someone else's trauma or general stressors, the nature of the trauma, working in isolation, similarity between the client and therapist (e.g. demographics and beliefs), expectations of empathic abilities, and work setting (e.g. training) (Teater & Ludgate, 2014). It can also be contracted by other professional caregivers and familial caregivers as a consequence of absorbing the suffering of those that they help, a process often accompanied by losing objectivity or an over-identification with the client, a relationship characterized by blurred boundaries, enmeshment, and attempts to rescue the client.

Compassion fatigue is different from burnout because burnout emerges more gradually and is accompanied by the emergence of emotional exhaustion, as opposed to compassion fatigue which emerges with little warning and involves more helplessness and confusion, isolation from supporters, a faster recovery rate, and symptoms disconnected from the actual causes (Figley, 1995).

Primary distinctions between the development of these conditions are also dependent on whether the provided caregiving is professional or familial, in which familial caregivers, such as spouses, are unable to separate their well-being from their partner due to their identities being naturally merged, leading to a co-experience of stressors. This constant exposure may even result in a more rapid inducement of emotional exhaustion due to a greater tendency to take on extra roles within the relationship and fix their spouses problems, which could impair their capacity to

care for others due to forgoing care for themselves. Additionally, spouses who serve as long-term caregivers and confidants to their partner tend to experience more distress, causing them to feel resentment since they cannot separate from their increasingly demanding relationship (Luby, 2015).

Twin relationships can follow a pattern similar to a dysfunctional marriage, according to Friedman, in the case that their parents have not given their children the opportunity to explore themselves as individuals, leading to a dynamic of physical and emotional caretaking based on pleasing and being pleased by the co-twin, as well as a possible obligatory closeness. The twins can become enmeshed within the relationship as their identities become blurred, and one twin feels nonexistent without the other, which can lead to twins feeling that they must maintain sameness and equality (Friedman, 2013).

Enmeshment is a “family organization in which boundaries between members are blurred and members are overconcerned and overinvolved in each other’s lives, limiting individual autonomy” (Goldenburg & Goldenberg, 2008). In families, it can be caused by an event or series of events spurring protectiveness in the relationship, in which, although the initial response may have been appropriate, the guardian may become stuck in this method and attempt to apply it excessively. More frequently, however, these family patterns are passed through generations (*Fulshear Treatment To Transition*, 2013). As it pertains to twinship, enmeshment is often the result of parents abdicating the role of primary nurturer due to the belief that twins serve as constant companions for the other, which can lead to isolation due to others being perceived as a threat to the twinship.

Enmeshed twins often have little ability for self-reflection due to a lack of emotional space, this space associated with alienation from the twin and thus uncreated (Friedman, n.d.). Consequences of enmeshment within family systems in general include the child's difficulty to develop autonomously and be responsible for their own choices or a complete rebellion from dysfunction, leading to the child making poor choices in an attempt to establish independence (*Fulshear Treatment To Transition*, 2013). Enmeshment is distinct from closeness because closeness involves a sense of independence rather than a lack thereof, and is distinct from empathy in that is *never* absorbing someone else's pain to the point of assumption. There is no flooding of emotions or loss of self-concept, as there is in enmeshment, and only becomes exhausting when it is done without balancing self-care (Grille, 2017).

While empathy can quickly become a disadvantageous process if the person expressing it loses their self-other distinction, it does have some benefits. Empathic feelings motivate people to act in ways that benefit others. However, this benevolence can also be harmful in the case that this selflessness is stronger than the desire to promote the common good, such as a father running out in front of a moving car to save his child (Batson, Ahmad, & Stocks, 2004). Furthermore, due to empathy's reflection of parental nurturance, there is also the possibility of paternalism, suggesting that the person for whom empathy is felt is dependent and in need of care (Batson, 2011).

Empathy can also lead to preferential treatment of group leaders in low accountability contexts (Blader & Rothman, 2014). Empathy can increase life expectancy as well, however, as suggested by a longitudinal study of older married adults who were more likely to live longer if they often gave instrumental support to friends, relatives, and emotional support to their spouses.

Receiving support, on the other hand, had no effect on longevity after controlling for provision (Brown, Nesse, Vinokur, & Smith, 2003). Furthermore, empathy can exacerbate the chance of developing depression, especially if the person engages in extreme perspective-taking and emotional concern, in addition to an inability to detach.

Research on empathy and depression in college students implied that high and low levels of affective empathy were associated with a high level of depression, but the outcome was dependent on emotional regulation. Individuals with high levels of cognitive regulation showed the least depression, especially when their levels of cognitive and affective empathy were moderate. Cognitive regulation included behaviors such as reflective thought, cognitive reappraisal, guilt, and suppression. On the contrary, lower levels of cognitive regulation had higher levels of depression overall, especially when their self-reported empathy was moderate to high. Women tended to have slightly higher levels of depression than men, and significantly less maladaptive guilt and suppression, which may be associated with their greater empathic concern (Tully, Ames, Garcia, & Donohue, 2016). This association between empathy and depression may result from empathetic exhaustion due to prolonged or extreme provisions of empathy, accompanied by self-blame (O'Connor, Berry, Lewis, Muhlerin, & Crisostomo, 2007).

Empathy in twins has tended to focus on the question of nature vs. nurture, extrasensory perception, and their ability to empathize with the general society. The disproportionate amount of articles containing immediate assumptions of twins as deeply empathic creatures is somewhat alarming considering the lack of formal evidence on the topic. Such articles include recent articles published by *ABC news*, a popular news source for the general public, with an article titled *Truth about twins: Do they feel each other's pain, have ESP or share the same DNA?*

Despite being one of the first search results for “empathy in twins,” its discussion is centered on whether or not twins can feel each others pain and read each other's minds, demonstrating pop culture’s perceptions on the meaning of twins having empathy (Blumer, 2016). Furthermore, an article from the *Huffington Post*, another popular news source, titled *Secret Life Of Twins' Explores Extraordinary Empathy Between Identical Siblings*, reinforced many of the stereotypes surrounding twins by continuing to emphasize twins as one person (even stating that twins call nontwins “half-people”) and using a case study of mirror-image twins discussing how in-tune their thoughts are. The article is followed by a slideshow mostly composed of twins dressed identically (Frost, 2015). The few scholarly articles discussing empathy in twins focused on heritability of empathy using similarity in twins’ empathic concern for others, as well as twins’ ability to perceive their co-twins’ social attitudes (Matthews, Batson, Horn, & Rosenman, 1981; Zahn-Waxler, Robinson, & Emde, 1992; Eaves & Last, 1980).

Although there are a small amount of therapists who have examined empathy as related to individuality in twins, there are lively disagreements concerning the role that individuality plays in developing twins’ emotional and cognitive relation to one another, as well as how to define the concept of individuality in the context of the twin bond. Much of this work has been surface-level as a consequence, resulting in ambiguous definitions and misunderstandings of such deep-seated and pervasive components of twinship (Friedman, n.d., Klein n.d.-a, n.d.-b).

Methods

Participants

Adolescent twins and nontwins between the ages of 10 and 19 were asked to participate in this mixed-methods study. This age range was determined using the World Health Organization's definition of adolescence (2014). The final sample was composed of 29 twins and 25 nontwins ranging from ages 13 to 19. 11 of the twins reported on an opposite-sex co-twin, while 18 reported on a same-sex co-twin. The twin sample comprised 13 sets (2 same-sex male, 7 same-sex female, 4 opposite-sex) and 3 twins without a participating co-twin. The nontwin sample comprised 9 sets (4 same-sex female, 5 opposite-sex) and 7 nontwins without a participating sibling. 16 of the nontwins answered survey questions about an opposite-sex sibling, while 9 answered questions about a same-sex sibling. The nontwin must have had a sibling within 4 years of age in order for their results to be used. The average age of twins was around 15.7 years, while the average age of nontwins was around 15.5 years. The median age difference between nontwin siblings was 1-2 years, with 52% of the sample being older than the sibling that they reported on and 48% being younger. 13.8% of the twin sample was identical, while 79.3% were fraternal and 6.9% were uncertain. This study was therefore primarily composed of minors. Thirty-nine subjects reported themselves as female, 13 as male, and 2 as other. Their races included: 50% white; 25.9% black or African American; 13% Asian (including Indian subcontinent and the Philippines origin); 1.9% Hispanic, Latino, or Spanish origin; and 9.3% more than one race. The final sample size exhibits a compromise in participant recruitment used in mixed-methods research, higher than qualitative research suggests, but lower than quantitative research requires (Creswell, 2007).

Survey

The 15 to 20 minute, 20-question survey had a concurrent embedded mixed-methods design, in which a small amount of qualitative questions existed within the larger quantitative study (New York City-Long Island-Lower Tri-County Public Health Training Center, 2014). The mixed-methods design used multiple constructs, “intentionally... combining... [quantitative and qualitative] methods to draw on the strengths of each” (Creswell, 2007). The quantitative portion consisted of 10-11 questions (depending on the type of dyad) about individuation and enmeshment within the sibling relationship, while the qualitative portion focused on discussions of empathy and sympathy using a phenomenological approach. Qualitative questions were used, specifically in the individuation and enmeshment portions, in order to create a more comprehensive and detailed picture of empathy and sympathy within the sibling relationship.

The seven individuation questions were derived from controversial constructs identified within the literature concerning the treatment of twins, including sharing of friendships and space, dressing alike, and comparisons. The question “For what grades were you and your twin placed in the same class by request of your guardian?,” despite being deemed inapplicable to the nontwin sibling relationship except in special cases, was not excluded from the siblings’ set of individuation questions in an effort to reduce differences between the 2 surveys.

The four enmeshment questions were adapted from the definition of enmeshment within family systems according to experts within the field (Luby, 2015). The individuation and enmeshment questions were answered using a frequency-based Likert scale (specifically 1-3: “Yes, always;” “Yes, sometimes;” and “No, never” or their equivalents). The 2 qualitative

questions were structured within the context of phenomenology in order to explore twins' and nontwins' experiences of empathy and sympathy more fully than quantitative data would permit.

Phenomenology aims to “describe the essence of the experience,” or, in other words, describe “what” the participants experienced and “how” they experienced it (Creswell, 2007). A phenomenological approach was selected for the purpose of filling the existing gap in the literature for how empathy and sympathy manifest within the twin relationship. Therefore, in order to provide a voice for twins who were not heard in the literature, these questions requested them to provide a textural description, or narrative, of their lived experiences of empathy and sympathy within their sibling relationship.

There was also a question following each description asking about their approximate age and the location in which the phenomenon was experienced to provide a structural description for the subject's story, which may have acted to reduce misinterpretation and create a more in-depth overview of this largely misunderstood relationship (Creswell, 2007). Additional sections of the survey included informed consent (1 question), code (1 question), demographics (5-6 questions depending on the type of dyad). The question of “Are you older or younger than your sibling?” was excluded from the twin demographic section due to its usage to perpetuate stereotypes of twin roles within the relationship, as well as its negligibility due to the miniscule age gap between twin siblings (Fierro, 2019). The question asking for the participants' race was derived from the 2015-2016 changes in the College Board's collection and reporting of race and ethnicity, which aligned with the United States Department of Education guidelines (n.d.).

Recruitment and Informed Consent Process

The participants came from faculty of the researcher's high school and peer recommendations as *voluntary* participants. Six twin participants (3 twin sets) came from familial connections with students in another part of the state. Students were asked to participate in the research if they satisfied the criterion of being an adolescent with a twin or non-twin sibling within 4 years of age, a limit created in an effort to increase the likelihood of a bond between the 2 siblings that could be more closely compared to the relationship between twins. Each potential respondent was emailed beforehand and informed appropriately of the study's purpose, benefits, and potential risks. In the case that the response was cooperative, the respondent was issued a physical "Human Participants Form" provided by ISEF. After this form was returned, the participant was issued a link to the online Google Forms survey.

Risk Assessment

Due to this study having requested information pertaining to sensitive relationship experiences (empathy, sympathy, enmeshment, and individuation), a minimal risk of mild feelings of discomfort from completion of the survey was possible. To minimize such psychological risk, the survey was reviewed by a licensed social worker before the experiment was initiated. The participants were also issued a "Mental Health Resources" form prior to filling out the survey, which contained the contact information of various helplines, support groups, and treatment centers at schoolwide, local, and national levels. This form was issued alongside the human consent form and survey copy to ensure that, in the case of emotional distress, both siblings had access to professional help.

Furthermore, the survey questions were randomized in an effort, in part, to disperse the relatively mild individuation questions among the perhaps more intense empathy, sympathy, and

enmeshment questions, which may in turn have alleviated any possible psychological pain experienced by participants during completion of the survey. The randomized order of the questions was identical for the twin and nontwin surveys.

Protection of Privacy

Each pair was assigned a code for the purpose of ensuring anonymity of responses while still being able to match them to the appropriate pair, such as TA (T categorizing the set as twin, rather than S for singleton and A for the purpose of matching up the dyads). A password-protected master list of such codes with respondent names was constructed for reminding participants of their issued key if necessary. Knowledge of this password was restricted to the researcher.

However, due to the open-ended format of the questions on empathy and sympathy, it was still possible for participants to provide identifying information in their responses. While this provision was heavily discouraged through the inclusion of the phrase “For privacy purposes, please do not use any identifying information in your response (e.g. names)” after every open-ended question, any names provided by respondents were kept confidential through password-protected accessibility to participant responses. This password was known only by the researcher. Furthermore, the given names were replaced with the words “my twin” or “my sibling” (when appropriate) when reporting results. These names were also immediately deleted from the password-protected Google Sheet upon conversion of survey responses.

This spreadsheet was free of any electronic identifiers such as IP addresses. The survey responses were deleted from the Google Forms server after the conversion was complete. Furthermore, all computer files were backed up securely. The codes were the only distinguishing

information utilized when reporting the survey results to ensure participant anonymity and confidentiality.

Measurements

The type of dyad taking the survey (twin vs. nontwin, same vs. opposite sex) and their responses to the qualitative and quantitative questions served as variables within the study. The controlled variables within the experiment were the composition of the survey issued, the target age group, as well as the online survey provider. The control group was the nontwin siblings, whose purpose was to provide a means of comparison for both the quantitative and qualitative aspects of twin relationships.

Feasibility/ Trial Run

To ensure that such data collection was feasible, the survey was first pilot tested in a group of adolescents that was not a part of the sample who was asked for feedback about the clarity and comprehensibility of questions, as well as suggestions for improvement.

Problems/ Solutions

Demographic variables such as gender, age, age gap, as well as zygosity were factors that might have influenced the outcome of the experiment. Furthermore, researcher bias could have lead to misinterpretation of the participants' open-ended responses, a possibility that was attemptedly mitigated by viewing the social phenomena holistically through a biopsychosocial approach, as well as being sensitive to how the respondents' personal biographies might have influenced their answers (New York City-Long Island-Lower Tri-County Public Health Training Center, 2018). However, qualified scientists and adolescents reviewed the groupings prior to the establishment of themes in order to create inter-rater reliability and ensure that the significant

statements were clustered properly. The researcher also bracketed out their own experiences by writing an account identifying the contexts and situations that might have influenced her perspective prior to the survey administration (Creswell, 2007). Additionally, there were certain confounding variables such as the setting in which the survey was completed that were difficult to control for, and due to a lack of resources, were not.

Data

The quantitative data collected for the enmeshment and individuation questions was first analyzed using chi-squares. Each of these questions (exempting “For what grades were you and your sibling/ twin placed in the same class by request of your guardian?” for compatibility reasons) was analyzed in relation to three sets of independent variables: same-sex *vs.* opposite-sex twins, same-sex *vs.* opposite-sex nontwins, and twins *vs.* nontwins. Contingency tables with twin *vs.* nontwin as the independent variable had 3 x 2 dimensions. Tables yielding insignificant results were collapsed into 2 x 2 contingency tables and each table’s chi-square value was recomputed. Contingency tables with same-sex *vs.* opposite sex as the independent variable were fourfold (2 x 2 dimensions) due to small sample sizes, in which the responses “Yes, always” and “Yes, sometimes” were combined to make “Yes” and “No, never” became “No.” If any cells in a fourfold table contained an expected value less than 1, the table’s p value was calculated directly using the Fisher's exact test (Kuzma & Bohnenblust, 2001). Odds ratios were calculated for tables yielding a significant difference (Levin & Fox, 1994). The qualitative data collected using the empathy and sympathy questions was evaluated by bracketing significant statements and quotes from the raw data, which became research themes, subthemes, and codes that described the information.

The qualitative data were first listed in a Google Doc and treated equally (i.e. horizontalized) in order to develop a list of nonrepetitive, distinct statements. After preliminary coding of responses was completed, the data were entered into *ATLAS.ti* to condense these codes using concept maps and further develop themes and subthemes (*ATLAS.ti*, Version 8.4.22.0). These processes permitted for the formation of composite descriptions of empathy and sympathy in sibling relationships with verbatim examples (Creswell, 2007).

The same definition of empathy was given to all participants, to ensure the twins' descriptions of empathy within their own relationships matched a common explanation (New York City-Long Island-Lower Tri-County Public Health Training Center, 2018). All qualitative data was peer reviewed in an effort to maximize the researcher's honesty in describing the four phenomena (twin empathy, twin sympathy, nontwin empathy, nontwin sympathy). Clarification of researcher bias was executed to allow for personal understanding of how the researcher's past experiences and orientations concerning sibling relationships might affect her interpretations of the qualitative data, and then remove herself from each subject's experiences (Creswell, 2007).

Follow-up questions with participants (member checking) did not occur due to the anonymous nature of the study. No physical interviews took place, therefore, the descriptions likely were not influenced by the researcher's characteristics. A table was created with the text for inter rater reliability to decrease the researcher's misinterpretations of their accounts. Therefore, transcriptions are accurate as well, since they came directly from the online survey completed by the participants.

Rationale

The purpose of this concurrent embedded mixed-methods study was to provide a meaningful overview of individuation and empathy for twin and nontwin adolescents so as to address the gaps in the literature concerning their experiences of these phenomena. A mixed-methods design was necessary in order to add the voices of twins and nontwins to this picture of empathy and sympathy, a domain plagued by assumptions, that cannot be gathered from quantitative data alone. By pairing phenomenological and quantitative designs, however, the strengths of both methods can be maximized, allowing for an understanding to be gained about how the frequency with which twins and nontwins have been separated physically and emotionally fits into this larger picture of how intimate feelings are expressed and received within their relationships.

Results

RQ1. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings participating in the same extracurricular activities (e.g. sports, clubs)?

Null Hypothesis (H_0): The relative frequency or percentage of twins who are involved in the same activities outside of school is the same as the relative frequency of nontwins who are involved in the same activities outside of school.

Research Hypothesis (H_1): The relative frequency or percentage of twins who are involved in the same activities outside of school is not the same as the relative frequency of nontwins who are involved in the same activities outside of school.

Table 1

Cross Tabulation of Sibling Status and Amount of Shared Extracurriculars

Sibling Status	Yes, all or most of our activities are done together.	Yes, some of our activities are done together.	No, none of our activities are done together.	Total	χ^2
Twin	6 (3.76)	8 (8.59)	15 (16.65)	29	3.33*
Nontwin	1 (3.24)	8 (7.41)	16 (14.35)	25	
Total	7	16	31	54	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sibling status and shared activities. The number of twins and non-twin siblings who described the amount of activities they shared as most, some, or none is shown in Table 1. Although more twins shared all or most of their outside of school activities, the difference was not significant, $\chi^2(2, N = 54) = 5.991, p > .05$. Thus, we fail to reject the null hypothesis.

RQ2. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings being dressed alike (i.e. similar/ identical clothing) during some period of their lives (e.g. infancy, childhood)?

H_0 : The relative frequency or percentage of twins who were dressed alike during some period of their lives is the same as the relative frequency of nontwins who were dressed alike during some period of their lives.

H_1 : The relative frequency or percentage of twins who were dressed alike during some period of their lives is not the same as the relative frequency of nontwins who were dressed alike during some period of their lives.

Table 2

Cross Tabulation of Sibling Status and Frequency of Being Dressed Alike in Past

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	χ^2
Twin	4 (4.30)	21 (16.65)	4 (8.06)	29	6.92*
Nontwin	4 (3.70)	10 (14.35)	11 (6.94)	25	
Total	8	31	15	54	

Note. * = $p < .05$.

A chi-square test of independence was performed to examine the relation between sibling status and the frequency of being dressed alike during some life period. The number of twins and non-twin siblings who described the frequency of being dressed alike during some life period as always, sometimes, or never is shown in Table 2. Twins were more likely to have been dressed alike frequently in the past than were nontwins, $\chi^2(2, N = 54) = 5.991, p < .05$, odds ratios = 4.91, 3.92, 1.19. Thus, we reject the null hypothesis.

RQ3. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings choosing to dress alike without encouragement from family or friends?

H_0 : The relative frequency or percentage of twins who choose to dress alike without encouragement is the same as the relative frequency of nontwins who choose to dress alike without encouragement.

H_1 : The relative frequency or percentage of twins who choose to dress alike without encouragement is not the same as the relative frequency of nontwins who choose to dress alike without encouragement.

Table 3

Cross Tabulation of Sibling Status and Choosing to Dress Alike

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	χ^2
Twin	0 (0.54)	15 (14.50)	14 (13.96)	29	1.20*
Nontwin	1 (0.46)	12 (12.50)	12 (12.04)	25	
Total	1	27	26	54	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sibling status and the frequency of choosing to dress alike without encouragement from family or friends. The number of twins and non-twin siblings who described the frequency of choosing to dress alike as always, sometimes, or never is shown in Table 3. Although more twins sometimes choose to dress alike, the difference was not significant, $\chi^2(2, N = 54) = 5.991, p > .05$. Thus, we fail to reject the null hypothesis.

RQ4. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings having the same friends?

H_0 : The relative frequency or percentage of twins who share friends is the same as the relative frequency of nontwins who share friends.

H_1 : The relative frequency or percentage of twins who share friends is not the same as the relative frequency of nontwins who share friends.

Table 4

Cross Tabulation of Sibling Status and Having Same Friends

Sibling Status	Yes, all or most of our friends are the same.	Yes, some of our friends are the same.	No, all of our friends are different.	Total	χ^2
Twin	9 (5.91)	19 (16.65)	1 (6.44)	29	14.15***
Nontwin	2 (5.09)	12 (14.35)	11 (5.56)	25	
Total	11	31	12	54	

Note. *** = $p < .001$.

A chi-square test of independence was performed to examine the relation between sibling status and the amount of friends siblings share. The number of twins and non-twin siblings who described the amount of friends they shared as most, some, or none is shown in Table 4. Twins were more likely to share friends than were nontwins, $\chi^2(2, N = 54) = 5.991$, $p < .001$, odds ratios = 5.17, 2.06, 22.00. Thus, we reject the null hypothesis.

RQ5. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings sharing a room?

H_0 : The relative frequency or percentage of twins who share a room is the same as the relative frequency of nontwins who share a room.

H_1 : The relative frequency or percentage of twins who share a room is not the same as the relative frequency of nontwins who share a room.

Table 5
Cross Tabulation of Sibling Status and Having Same Room

Sibling Status	Yes, currently.	No, but we used to.	No, we have never.	Total	χ^2
Twin	10 (5.91)	18 (17.72)	1 (5.37)	29	13.82***
Nontwin	1 (5.09)	15 (15.28)	9 (4.63)	25	
Total	11	33	10	54	

Note. *** = $p < .001$.

A chi-square test of independence was performed to examine the relation between sibling status and sharing a room. The number of twins and non-twin siblings who described when they have shared a room with their sibling as currently, used to, or never is shown in Table 5. Twins were more likely to share a room than were nontwins, $\chi^2(2, N = 54) = 13.816$, $p < .001$, odds ratios = 12.62, 1.09, 15.74. Thus, we reject the null hypothesis.

RQ6. Does sibling status (being a twin or a nontwin) affect the frequency of intersibling comparisons?

H_0 : The relative frequency or percentage of twins who are compared is the same as the relative frequency of nontwins who are compared.

H_1 : The relative frequency or percentage of twins who are compared is not the same as the relative frequency of nontwins who are compared.

Table 6

Cross Tabulation of Sibling Status and Frequency of Being Compared

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	X^2
Twin	15 (10.20)	13 (17.19)	1 (1.61)	29	7.57*
Nontwin	4 (8.80)	19 (14.81)	2 (1.39)	25	
Total	19	32	3	54	

Note. * = $p < .05$

A chi-square test of independence was performed to examine the relation between sibling status and frequency of being compared. The number of twins and non-twin siblings who described the frequency with which they were compared to their sibling as always, sometimes, or never is shown in Table 6. Twins were more likely to always be compared than were nontwins, $X^2(2, N = 54) = 5.991, p < .05$, odds ratios = 5.63, 3.90, 2.44. Thus, we reject the null hypothesis.

RQ7. Does sibling status (being a twin or a nontwin) affect the frequency with which siblings feel too involved in their sibling's problems?

H_0 : The relative frequency or percentage of twins who feel too involved in their sibling's problems is the same as the relative frequency of nontwins who feel too involved in their sibling's problems.

H_1 : The relative frequency or percentage of twins who feel too involved in their sibling's problems is not the same as the relative frequency of nontwins who feel involved in their sibling's problems.

Table 7

Cross Tabulation of Sibling Status and Frequency of Sibling Problem Involvement

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	X^2
Twin	3 (1.61)	11 (11.81)	15 (15.57)	29	2.75*
Nontwin	0 (1.39)	11 (10.19)	14 (13.43)	25	
Total	3	22	29	54	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sibling status and frequency of sibling problem involvement. The number of twins and non-twin siblings who described the frequency with which they feel too involved in their sibling's problems as always, sometimes, or never is shown in Table 7. Although more twins always felt too involved in their twin sibling's problems, the difference was not significant, $X^2(2, N = 54) = 5.991$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ8. Does sibling status (being a twin or a nontwin) affect the frequency with which siblings feel that they cannot separate emotionally from their sibling?

H_0 : The relative frequency or percentage of twins who feel that they cannot separate emotionally from their sibling is the same as the relative frequency of nontwins who feel that they cannot separate emotionally from their sibling.

H_1 : The relative frequency or percentage of twins who feel that they cannot separate emotionally from their sibling is not the same as the relative frequency of nontwins who feel that they cannot separate emotionally from their sibling.

Table 8

Cross Tabulation of Sibling Status and Frequency of Sibling Emotional Intertwinement

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	X^2
Twin	4 (3.76)	11 (9.67)	14 (15.57)	29	0.77*
Nontwin	3 (3.24)	7 (8.33)	15 (13.43)	25	
Total	7	18	29	54	

Note.* = $p > .05$

A chi-square test of independence was performed to examine the relation between sibling status and frequency of sibling emotional intertwinement. The number of twins and non-twin siblings who described the frequency with which they cannot separate emotionally from their sibling as always, sometimes, or never is shown in Table 8. Although more twins always felt that they could not separate emotionally from their twin sibling, the difference was not significant, X^2 (2, $N = 54$) = 5.991, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ9. Does sibling status (being a twin or a nontwin) affect the frequency with which siblings get emotional when they listen to their sibling's problems?

H_0 : The relative frequency or percentage of twins who get emotional when they listen to their twin sibling's problems is the same as the relative frequency of nontwins who get emotional when they listen to their sibling's problems.

H_1 : The relative frequency or percentage of twins who get emotional when they listen to their twin sibling's problems is not the same as the relative frequency of nontwins who get emotional when they listen to their sibling's problems.

Table 9

Cross Tabulation of Sibling Status and Frequency of Emotional Response

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	X^2
Twin	2 (2.69)	17 (15.04)	10 (11.28)	29	1.24*
Nontwin	3 (2.31)	11 (12.96)	11 (9.72)	25	
Total	5	28	21	54	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sibling status and frequency of siblings feeling emotional when they listen to their sibling's problems. The number of twins and non-twin siblings who described the frequency with which they feel emotional when listening to their sibling's problems as always, sometimes, or never is shown in Table 9. Although more twins sometimes felt emotional when listening to their twin sibling's problems, the difference was not significant, $X^2(2, N = 54) = 5.991$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ10. Does sibling status (being a twin or a nontwin) affect the frequency with which siblings feel that they need to fix their sibling's problems?

H_0 : The relative frequency or percentage of twins who feel that they need to fix their twin sibling's problems is the same as the relative frequency of nontwins who feel that they need to fix their sibling's problems.

H_1 : The relative frequency or percentage of twins who feel that they need to fix their twin sibling's problems is not the same as the relative frequency of nontwins who feel that they need to fix their sibling's problems.

Table 10

Cross Tabulation of Sibling Status and Frequency of Sibling Needing to Fix

Sibling Status	Yes, always.	Yes, sometimes.	No, never.	Total	X^2
Twin	3 (3.22)	20 (18.26)	6 (7.52)	29	1.05*
Nontwin	3 (2.78)	14 (15.74)	8 (6.48)	25	
Total	6	34	14	54	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sibling status and frequency of siblings feeling that they need to fix their sibling's problems. The number of twins and non-twin siblings who described the frequency with which they feel the need to fix their sibling's problems as always, sometimes, or never is shown in Table 10. Although more twins sometimes felt the need to fix their twin sibling's problems, the difference was not significant, $X^2(2, N = 54) = 5.991, p > .05$. Thus, we fail to reject the null hypothesis.

RQ11. Does twin sex combination (being same-sex or opposite-sex) affect the likelihood of twins participating in the same extracurricular activities (e.g. sports, clubs)?

H_0 : The relative frequency or percentage of opposite-sex twins who are involved in the same activities outside of school is the same as the relative frequency of same-sex twins who are involved in the same activities outside of school.

H_1 : The relative frequency or percentage of opposite-sex twins who are involved in the same activities outside of school is not the same as the relative frequency of same-sex twins who are involved in the same activities outside of school.

Table 11

Cross Tabulation of Twin Sex Combination and Shared Extracurriculars

Sex Combination	Yes	No	Total	χ^2
Opposite-Sex	3	8	11	3.13*
Same-Sex	11	7	18	
Total	14	15	29	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between twin sex combination and shared activities. The number of opposite-sex and same-sex twin siblings who answered yes or no to sharing at least some extracurricular activities is shown in Table 11.

Although more same-sex twins shared activities, the difference was not significant, $\chi^2(1, N = 29) = 3.841$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ12. Does twin sex combination (being same-sex or opposite-sex) affect the likelihood of twins being dressed alike (i.e. similar/ identical clothing) during some period of their lives (e.g. infancy, childhood)?

H_0 : The relative frequency or percentage of opposite-sex twins who were dressed alike during some period of their lives is the same as the relative frequency of same-sex twins who were dressed alike during some period of their lives.

H_1 : The relative frequency or percentage of opposite-sex twins who were dressed alike during some period of their lives is not the same as the relative frequency of same-sex twins who were dressed alike during some period of their lives.

Table 12

Cross Tabulation of Twin Sex Combination and Being Dressed Alike in Past

Sex Combination	Yes	No	Total	χ^2
Opposite-Sex	9	2	11	.29*
Same-Sex	16	2	18	
Total	25	4	29	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between twin sex combination and being dressed alike during some life period. The number of opposite-sex and same-sex twin siblings who answered yes or no to being dressed alike during some life period is shown in Table 12. Although more same-sex twins were dressed alike in the past, the difference was not significant, $\chi^2(1, N = 29) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ13. Does twin sex combination (being same-sex or opposite-sex) affect whether twins choose to dress alike?

H_0 : The relative frequency or percentage of opposite-sex twins who choose to dress alike without encouragement is the same as the relative frequency of same-sex twins who choose to dress alike without encouragement.

H_1 : The relative frequency or percentage of opposite-sex twins who choose to dress alike without encouragement is not the same as the relative frequency of same-sex twins who choose to dress alike without encouragement.

Table 13

Cross Tabulation of Twin Sex Combination and Choosing to Dress Alike

Sex Combination	Yes	No	Total	χ^2
Opposite-Sex	5	6	11	.28*
Same-Sex	10	8	18	
Total	28	14	42	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between sex combination and the frequency of choosing to dress alike without encouragement from family or friends. The number of opposite-sex twins and same-sex twins who answered yes or no to choosing to dress alike is shown in Table 13. Although more same-sex twins chose to dress alike, the difference was not significant, $\chi^2(1, N = 29) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ14. Does twin sex combination (being same-sex or opposite-sex) affect the likelihood of twins having the same friends?

H_0 : The relative frequency or percentage of opposite-sex twins who share friends is the same as the relative frequency of same-sex twins who share friends.

H_1 : The relative frequency or percentage of opposite-sex twins who share friends is not the same as the relative frequency of same-sex twins who share friends.

Table 14

Cross Tabulation of Twin Sex Combination and Having Same Friends

Sex Combination	Yes	No	Total	p
Opposite-Sex	11	0	11	1 *
Same-Sex	17	1	18	
Total	28	1	29	

Note. * = $p > .05$

A Fisher's exact test was performed to examine the relation between twin sex combination and sharing friends. The number of opposite-sex and same-sex twin siblings who answered yes or no to sharing at least some friends is shown in Table 14. Although more same-sex twins shared friends, the difference was not significant ($p = 1$). Thus, we fail to reject the null hypothesis.

RQ15. Does twin sex combination (being same-sex or opposite-sex) affect the likelihood of twins sharing a room?

H_0 : The relative frequency or percentage of opposite-sex twins who share a room is the same as the relative frequency of same-sex twins who share a room.

H_1 : The relative frequency or percentage of opposite-sex twins who share a room is not the same as the relative frequency of same-sex twins who share a room.

Table 15

Cross Tabulation of Twin Sex Combination and Having Same Room

Sex Combination	Yes	No	Total	p
Opposite-Sex	0	11	11	.0035 **
Same-Sex	10	8	18	
Total	10	19	29	

Note. ** = $p < .01$.

A Fisher's exact test was performed to examine the relation between twin sex combination and sharing a room. The number of opposite-sex and same-sex twin siblings who answered yes or no to sharing a room is shown in Table 15. Same-sex twins were more likely to share a room than were opposite-sex twins ($p = 0.0035$), odds ratio = 28.41. Thus, we reject the null hypothesis.

RQ16. Does twin sex combination (being same-sex or opposite-sex) affect intertwin comparisons?

H_0 : The relative frequency or percentage of opposite-sex twins who are compared is the same as the relative frequency of same-sex twins who are compared.

H_1 : The relative frequency or percentage of opposite-sex twins who are compared is not the same as the relative frequency of same-sex twins who are compared.

Table 16

Cross Tabulation of Twin Sex Combination and Being Compared

Sex Combination	Yes	No	Total	p
Opposite-Sex	11	0	11	1 *
Same-Sex	17	1	18	
Total	28	1	29	

Note. * = $p > .05$

A Fisher's exact test was performed to examine the relation between twin sex combination and intertwin comparisons. The number of opposite-sex and same-sex twins who answered yes or no to being compared is shown in Table 16. Although more same-sex twins

were compared, the difference was not significant, ($p = 1$). Thus, we fail to reject the null hypothesis.

RQ17. Does sex combination (being same-sex or opposite-sex) affect the frequency with which twins feel too involved in their co-twin's problems?

H_0 : The relative frequency or percentage of opposite-sex twins who feel too involved in their sibling's problems is the same as the relative frequency of same-sex twins who feel too involved in their sibling's problems.

H_1 : The relative frequency or percentage of opposite-sex twins who feel too involved in their sibling's problems is not the same as the relative frequency of same-sex twins who feel too involved in their sibling's problems.

Table 17

Cross Tabulation of Twin Sex Combination and Twin Problem Involvement

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	4	7	11	1.01*
Same-Sex	10	8	18	
Total	14	15	29	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between twin sex combination and sibling problem involvement. The number of same-sex twins and opposite-sex twins who answered yes or no to feeling too involved in their sibling's problems is shown in Table 17. Although more same-sex twins felt too involved in their twin sibling's

problems, the difference was not significant, $X^2(1, N = 29) = 3.841$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ18. Does sex combination (being same-sex or opposite-sex) affect the frequency with which siblings feel that they cannot separate emotionally from their co-twin?

H_0 : The relative frequency or percentage of opposite-sex twins who feel that they cannot separate emotionally from their co-twin is the same as the relative frequency of same-sex twins who feel that they cannot separate emotionally from their co-twin.

H_1 : The relative frequency or percentage of opposite-sex twins who feel that they cannot separate emotionally from their co-twin is not the same as the relative frequency of same-sex twins who feel that they cannot separate emotionally from their co-twin.

Table 18

Cross Tabulation of Twin Sex Combination and Twin Emotional Intertwinement

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	4	7	11	1.68*
Same-Sex	11	7	18	
Total	15	14	29	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between twin sex combination and sibling emotional intertwinement. The number of opposite-sex twins and same-sex twins who answered yes or no to feeling that they cannot separate emotionally from their co-twin is shown in Table 18. Although more same-sex twins felt that they could not

separate emotionally from their twin sibling, the difference was not significant, $X^2(1, N = 29) = 3.841$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ19. Does sex combination (being same-sex or opposite-sex) affect whether twins get emotional when they listen to their co-twin's problems?

H_0 : The relative frequency or percentage of opposite-sex twins who get emotional when they listen to their co-twin's problems is the same as the relative frequency of same-sex twins who get emotional when they listen to their co-twin's problems.

H_1 : The relative frequency or percentage of opposite-sex twins who get emotional when they listen to their co-twin's problems is not the same as the relative frequency of same-sex twins who get emotional when they listen to their co-twin's problems.

Table 19

Cross Tabulation of Twin Sex Combination and Feeling Emotional

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	8	3	11	0.41*
Same-Sex	11	7	18	
Total	19	10	29	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between twin sex combination and feeling emotional when they listen to their co-twin's problems. The number of same-sex and opposite-sex siblings who answered yes or no to feeling emotional when listening to their twin's problems is shown in Table 19. Although more same-sex twins felt

emotional when listening to their twin sibling's problems, the difference was not significant, $X^2(1, N = 29) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ20. Does sex combination (being same-sex or opposite-sex) affect whether twins feel that they need to fix their co-twin's problems?

H_0 : The relative frequency or percentage of opposite-sex twins who feel that they need to fix their co-twin's problems is the same as the relative frequency of same-sex twins who feel that they need to fix their co-twin's problems.

H_1 : The relative frequency or percentage of opposite-sex twins who feel that they need to fix their co-twin's problems is not the same as the relative frequency of same-sex twins who feel that they need to fix their co-twin's problems.

Table 20

Cross Tabulation of Twin Sex Combination and Twin Needing to Fix

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	10	1	11	1.45*
Same-Sex	13	5	18	
Total	23	6	29	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between twin sex combination and feeling the need to fix their co-twin's problems. The number of same-sex and opposite-sex siblings who answered yes or no to feeling the need to fix their co-twin's problems is shown in Table 20. Although more same-sex twins felt the need to fix their co-twin's

problems, the difference was not significant, $\chi^2(1, N = 29) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ21. Does nontwin sibling sex combination (being same-sex or opposite-sex) affect the likelihood of siblings participating in the same extracurricular activities (e.g. sports, clubs)?

H_0 : The relative frequency or percentage of opposite-sex nontwins who are involved in the same activities outside of school is the same as the relative frequency of same-sex nontwins who are involved in the same activities outside of school.

H_1 : The relative frequency or percentage of opposite-sex nontwins who are involved in the same activities outside of school is not the same as the relative frequency of same-sex nontwins who are involved in the same activities outside of school.

Table 21

Cross Tabulation of Nontwin Sex Combination and Shared Extracurriculars

Sex Combination	Yes	No	Total	χ^2
Opposite-Sex	3	12	15	4.17*
Same-Sex	6	4	10	
Total	9	16	25	

Note. * = $p < .05$.

A chi-square test of independence was performed to examine the relation between nontwin sex combination and shared activities. The number of opposite-sex and same-sex nontwins who answered yes or no to sharing at least some extracurricular activities is shown in

Table 21. Same-sex nontwins were more likely to share activities than were opposite-sex

nontwins, $X^2(1, N = 25) = 3.841$, $p < .05$, odds ratio = 6. Thus, we reject the null hypothesis.

RQ22. Does nontwin sex combination (being same-sex or opposite-sex) affect the likelihood of siblings being dressed alike (i.e. similar/ identical clothing) during some period of their lives (e.g. infancy, childhood)?

H_0 : The relative frequency or percentage of opposite-sex nontwins who were dressed alike during some period of their lives is the same as the relative frequency of same-sex twins who were dressed alike during some period of their lives.

H_1 : The relative frequency or percentage of opposite-sex nontwins who were dressed alike during some period of their lives is not the same as the relative frequency of same-sex twins who were dressed alike during some period of their lives.

Table 22

Cross Tabulation of Nontwin Sex Combination and Being Dressed Alike in Past

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	6	9	15	3.90*
Same-Sex	8	2	10	
Total	14	11	25	

Note. * = $p < .05$.

A chi-square test of independence was performed to examine the relation between nontwin sex combination and being dressed alike during some life period. The number of opposite-sex and same-sex nontwin siblings who answered yes or no to being dressed alike during some life period is shown in Table 22. Same-sex nontwins were more likely to have been

dressed alike in the past than opposite-sex nontwins, $X^2(1, N = 25) = 3.841$, $p > .05$, odds ratio =

6. Thus, we fail to reject the null hypothesis.

RQ23. Does nontwin sex combination (being same-sex or opposite-sex) affect whether siblings choose to dress alike?

H_0 : The relative frequency or percentage of opposite-sex nontwins who choose to dress alike without encouragement is the same as the relative frequency of same-sex nontwins who choose to dress alike without encouragement.

H_1 : The relative frequency or percentage of opposite-sex nontwins who choose to dress alike without encouragement is not the same as the relative frequency of same-sex nontwins who choose to dress alike without encouragement.

Table 23

Cross Tabulation of Nontwin Sex Combination and Choosing to Dress Alike

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	7	8	15	*0.43
Same-Sex	6	4	10	
Total	13	12	25	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between sex combination and the frequency of choosing to dress alike without encouragement from family or friends. The number of opposite-sex nontwins and same-sex nontwins who answered yes or no to choosing to dress alike is shown in Table 23. Although more same-sex nontwins chose to dress

alike, the difference was not significant $X^2(1, N = 29) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ24. Does nontwin sex combination (being same-sex or opposite-sex) affect the likelihood of nontwins having the same friends?

H_0 : The relative frequency or percentage of opposite-sex nontwins who share friends is the same as the relative frequency of same-sex nontwins who share friends.

H_1 : The relative frequency or percentage of opposite-sex nontwins who share friends is not the same as the relative frequency of same-sex nontwins who share friends.

Table 24

Cross Tabulation of Nontwin Sex Combination and Having Same Friends

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	9	6	15	0.24*
Same-Sex	5	5	10	
Total	14	11	25	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between nontwin sex combination and sharing friends. The number of opposite-sex and same-sex nontwin siblings who answered yes or no to sharing at least some friends is shown in Table 24. Although more opposite-sex nontwins shared friends, the difference was not significant, $X^2(1, N = 25) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ25. Does nontwin sex combination (being same-sex or opposite-sex) affect the likelihood of siblings sharing a room?

H_0 : The relative frequency or percentage of opposite-sex nontwins who share a room is the same as the relative frequency of same-sex nontwins who share a room.

H_1 : The relative frequency or percentage of opposite-sex nontwins who share a room is not the same as the relative frequency of same-sex nontwins who share a room.

Table 25

Cross Tabulation of Nontwin Sex Combination and Having Same Room

Sex Combination	Yes	No	Total	p
Opposite-Sex	0	15	15	.4
Same-Sex	1	9	10	
Total	1	24	25	

Note. * = $p > .05$.

A Fisher's exact test was performed to examine the relation between nontwin sex combination and sharing a room. The number of opposite-sex and same-sex nontwin siblings who answered yes or no to sharing a room is shown in Table 25. Although more same-sex nontwins shared a room, the difference was not significant ($p = .4$). Thus, we fail to reject the null hypothesis.

RQ26. Does nontwin sex combination (being same-sex or opposite-sex) affect intersibling comparisons?

H_0 : The relative frequency or percentage of opposite-sex nontwins who are compared is the same as the relative frequency of same-sex nontwins who are compared.

H_I : The relative frequency or percentage of opposite-sex nontwins who are compared is not the same as the relative frequency of same-sex nontwins who are compared.

Table 26

Cross Tabulation of Nontwin Sex Combination and Being Compared

Sex Combination	Yes	No	Total	χ^2
Opposite-Sex	14	1	15	.09*
Same-Sex	9	1	10	
Total	23	2	25	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between nontwin sex combination and intersibling comparisons. The number of opposite-sex and same-sex nontwins who answered yes or no to being compared is shown in Table 26. Although more opposite-sex twins were compared, the difference was not significant, $\chi^2(1, N = 25) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ27. Does sex combination (being same-sex or opposite-sex) affect the frequency with which nontwins feel too involved in their sibling's problems?

H_0 : The relative frequency or percentage of opposite-sex nontwins who feel too involved in their sibling's problems is the same as the relative frequency of same-sex nontwins who feel too involved in their sibling's problems.

H_I : The relative frequency or percentage of opposite-sex nontwins who feel too involved in their sibling's problems is not the same as the relative frequency of same-sex nontwins who feel too involved in their sibling's problems.

Table 27

Cross Tabulation of Nontwin Sex Combination and Problem Involvement

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	6	9	15	0.24*
Same-Sex	5	5	10	
Total	11	14	25	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between nontwin sex combination and sibling problem involvement. The number of same-sex nontwins and opposite-sex nontwins who answered yes or no to feeling too involved in their sibling's problems is shown in Table 27. Although more opposite-sex nontwins never felt too involved in their sibling's problems, the difference was not significant, $X^2(1, N = 25) = 3.841$, $p > .05$. Thus, we fail to reject the null hypothesis.

RQ28. Does sex combination (being same-sex or opposite-sex) affect the frequency with which nontwins feel too involved in their sibling's problems?

H_0 : The relative frequency or percentage of opposite-sex nontwins who feel that they cannot separate emotionally from their sibling is the same as the relative frequency of same-sex nontwins who feel that they cannot separate emotionally from their sibling.

H_1 : The relative frequency or percentage of opposite-sex nontwins who feel that they cannot separate emotionally from their sibling is not the same as the relative frequency of same-sex nontwins who feel that they cannot separate emotionally from their sibling.

Table 28

Cross Tabulation of Twin Sex Combination and Nontwin Emotional Intertwinement

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	7	8	15	0.24*
Same-Sex	3	7	10	
Total	10	15	25	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between nontwin sex combination and sibling emotional intertwinement. The number of opposite-sex nontwins and same-sex nontwins who answered yes or no to feeling that they cannot separate emotionally from their sibling is shown in Table 28. Although more same-sex nontwins felt that they could not separate emotionally from their sibling, the difference was not significant, $X^2(1, N = 25) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ29. Does sex combination (being same-sex or opposite-sex) affect whether nontwins get emotional when they listen to their sibling's problems?

H_0 : The relative frequency or percentage of opposite-sex nontwins who get emotional when they listen to their sibling's problems is the same as the relative frequency of same-sex nontwins who get emotional when they listen to their sibling's problems.

H_1 : The relative frequency or percentage of opposite-sex nontwins who get emotional when they listen to their sibling's problems is not the same as the relative frequency of same-sex nontwins who get emotional when they listen to their sibling's problems.

Table 29

Cross Tabulation of Nontwin Sex Combination and Feeling Emotional

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	8	7	15	0.11*
Same-Sex	6	4	10	
Total	14	11	25	

Note. * = $p > .05$.

A chi-square test of independence was performed to examine the relation between nontwin sex combination and feeling emotional when they listen to their sibling's problems. The number of same-sex and opposite-sex nontwins who answered yes or no to feeling emotional when listening to their sibling's problems is shown in Table 29. Although a greater proportion of same-sex nontwins felt emotional when listening to their sibling's problems, the difference was not significant, $X^2(1, N = 25) = 3.841, p > .05$. Thus, we fail to reject the null hypothesis.

RQ30. Does sex combination (being same-sex or opposite-sex) affect whether nontwins feel that they need to fix their sibling's problems?

H_0 : The relative frequency or percentage of opposite-sex nontwins who feel that they need to fix their sibling's problems is the same as the relative frequency of same-sex nontwins who feel that they need to fix their sibling's problems.

H_1 : The relative frequency or percentage of opposite-sex nontwins who feel that they need to fix their sibling's problems is not the same as the relative frequency of same-sex nontwins who feel that they need to fix their sibling's problems.

Table 30

Cross Tabulation of Nontwin Sex Combination and Needing to Fix

Sex Combination	Yes	No	Total	X^2
Opposite-Sex	9	6	15	1.10*
Same-Sex	8	2	10	
Total	17	8	25	

Note. * = $p > .05$

A chi-square test of independence was performed to examine the relation between nontwin sex combination and feeling the need to fix their sibling's problems. The number of same-sex and opposite-sex nontwins who answered yes or no to feeling the need to fix their sibling's problems is shown in Table 30. Although more opposite-sex nontwins never felt the need to fix their sibling's problems, the difference was not significant, $X^2(1, N = 25) = 3.841$, $p > .05$. Thus, we fail to reject the null hypothesis.

Table 31 Key to Composite Descriptions

1. Italics denote *codes*
2. Bold and italics denote ***subthemes***
3. Bold denotes **themes**

RQ31. What is the essence of empathy in the twin relationship?

The lived experience of empathy for twins attempting to understand their co-twin's overall context and its effect on their emotions included many **themes** and ***subthemes***, such as

achievement (*sports, academics, comparison*), **punishment**, **health** (*physical, mental*), **relationships** (*romantic, isolation, conflict*), and **adjustment** (*appearance, new places*). The themes and subthemes were developed from the codes assigned to the written examples twins and non-twin siblings provided for empathy and sympathy.

When twins tried to take the perspective of their co-twin, one common code suggested a change in *critical attitude*. Some twins felt “like a jerk,” or “selfish” after reflecting on how their co-twin’s *larger context* contributed to their overall emotional well-being. For example, one twin’s *critical attitude* changed after realizing how her co-twin’s “gloom” while “throwing the frisbee” by himself,” (*isolation*) was most attributable to being separated from his female siblings as “the only little boy in the house” (*demographic separation*). Another realized how her twin’s stress was not “over nothing,” but rather the result of trying to balance “home life” with “academic life.” An understanding of failure in spite of hard work also induced some changes in *critical attitude*. Despite one twin initially being mean to her co-twin for her failure to perfect a breaststroke, her later understanding that she was “trying really hard,” allowed for her to issue her twin a “heartfelt apology.” A *critical attitude* might also have been taken toward **relationships** that their twin was involved in, and put aside after witnessing their co-twin’s emotional distress. Although a twin might have believed that her co-twin’s “break up was for the best” or that her friendship ended over “something trivial,” once they “realized how sad” their twin was, they sometimes tried to take their twin’s mind off of it. After witnessing their twin’s distress, some also *took their sibling’s side*. They felt “angry” at the person that caused the co-twin’s emotional slump, or believed that others had “abandoned” their twin. *Unit treatment* also led to a change in *critical attitude*, such as when one twin’s parents told them that they had

to “have similar hairstyles,” and the twin who normally got the “hairstyles she want[ed]” no longer thought that her twin was “overreacting” when she had to get her twin’s hairstyle.

Twins might also try to provide their co-twin with *support despite not having experience* with the twin’s situation. These twins might be going through the same experience, but with a different outcome. For instance, twins supported their co-twin when they failed to reach their **academic** goals--“struggling with their grades,” being “only a couple of points away from National Merit”-- or their emotional goals due to being “a bit depressed.” However, twins also provided support when their twin *achieved success*, such as one twin who was “excited and happy” when her twin won an award.

When a co-twin experienced some sort of **health** complication, twins sometimes committed time to “sit” with them and “make sure” they were “okay,” or tried to keep them “calm and content,” especially when the co-twin’s **health** was perceived to be *in danger*. However, some twins became concerned about their own health in these instances, such as one who “started to cry” because she “hoped [her twin’s fainting] wouldn’t happen” to her. Twins who had already experienced a **physical ailment** that their twin was then experiencing, such as having “broken bones” or a “sprained [...] thumb,” “felt bad for” them and were able to understand their “disappointment.”

When a co-twin was **punished**, twins sometimes “imagined how their twin felt,” or knew intuitively that their twin was “frightened and upset.” These events were sometimes *recalled from childhood*, indicating a possible presence of high distress while initially experiencing the event.

Comparisons of twin's **achievement** made by society and parents also encouraged twins to take their co-twin's perspective. The twins favored in these **comparisons** might have pondered how being on the negative side "upset" their co-twin, and tried to "imagine" how they "would feel if someone examined [their] characteristics this way." One twin recalled experiencing a similar perspective-taking "any time" that his brother performed "less academically" than him. Twins described these comparisons as happening "a lot throughout the years" and "recently."

However, *a lack of experience with a twin's circumstances also prevented understanding.* For example, a twin recounted being unable to "relate" to his twin's longing for a girlfriend because he was "asexual." Another twin whose twin brother had "always been better than [him] at school" failed to comprehend how when his twin brother got "a bunch of awards," he "just shrugged it off and really didn't care."

RQ32. What is the essence of empathy in the nontwin relationship?

The lived experience of empathy for nontwins attempting to understand their sibling's overall context and its effect on their emotions included many **themes** and *subthemes*, such as **achievement (sports, academics)**, **punishment**, **health (mental)**, **relationships (romantic, isolation, conflict)**, and **adjustment (appearance, new places)**.

Demographic separation often helped determine the roles that nontwins took when feeling empathy for their sibling. Older nontwins who had *experienced something similar to their sibling were able to provide positive input* in their encounters with **relationships** and *failure*. For example, one nontwin whose younger sibling faced a **sports**-related rejection understood how "destroying it can be because of [her] own sport," and consequently was able to "explain" to her

sibling that that rejection does not define you” and that it can sometimes “lead to success.” An older sibling experienced in having “meaningful relationship[s]” could also “advise” his sister by reflecting on the “similar sensation” he felt when he was not in one. However, younger siblings were also able to *draw from their past experiences* to understand their older siblings **isolation** from **relationships**. A nontwin whose older sibling had a weak social group might have known “how hard that could be sometimes,” and thus comprehended her brother’s *psychological pain*.

However, even if nontwins had never experienced something similar to their sibling, many still tried to understand their sibling’s feelings. Younger siblings who had not yet had the opportunity to explore certain social situations might have tried to take their sibling’s perspective to achieve this purpose. For instance, one nontwin whose older sister became involved in a **conflict** with another girl “tried to collect a sense of how that would have played out the way it did” by asking herself questions about her sibling’s circumstances. Older nontwins who have never experienced the social **or achievement-related** problem that their sibling was wrestling with might “try [their] best” as well, possibly taking their sibling’s side in the process against some other peer or authority group. By way of example, a nontwin whose **sport** did not rely on “group effort” *found it difficult to help* a younger sister who was having trouble getting along with their teammates in a collaboration-based sport like “soccer,” and “struggle[d] to provide input” *in spite of good intentions*. In another case, when an older nontwin continued to be assigned more “central roles” in dance recitals than her younger sister, despite her sister “put[ting] as much time and effort into dance as [she] did at her age,” she had difficulty understanding why her sister was not advancing. Because the older nontwin’s experiences did not match her sister’s, she tried to imagine her sister’s frustration with “always working to one

goal but never obtaining it because there was always a class ahead of her,” and sensed that “she almost felt cheated for being... younger.” Siblings might have also had different experiences due to disparate gender. To illustrate, when one nontwin’s brother “got in trouble for a fight [they] got in,” she felt guilty that only he got “in trouble” because he was “a boy.”

Mental health problems could also be difficult to grasp if the sibling had never endured one. However, even then nontwins tried to understand their sibling’s emotions. A nontwin whose sister was suffering from “severe depression” might have only been able to reach an uncertain “comprehension of her mentality and rationale.” Nontwins also tried to apprehend their sibling’s negative feelings toward *isolation* and *conflict* in their **relationships**, despite not experiencing anything similar. In some instances, nontwins whose siblings had trouble “maintaining a relationship with... friends in the same grade,” or were not “comfortable” with some new members of their “friend group” came to their siblings to “talk... about it.” Although the siblings might not have gone through something comparable, they said they could “understand how [it] would feel.”

Some nontwins also *tried to understand* how *failing to achieve* academic goals affected their sibling’s emotions, *despite not experiencing* this *failure* simultaneously. When a sibling had low grades, they might have seen their sibling’s emotions change due to negative consequences, causing them to try to imagine how they felt. These negative consequences included being “yelled at,” “fail[ing] out of [...] school,” or “no longer be[ing] able to cheer at games,” which in turn fomented “stress,” “hate,” or “embarras[ment],” respectively. Nontwins’ also tended to *take their sibling’s side* when they believed that a sibling had “worked hard” or was “trying.”

When a sibling had to **adjust** to a *new appearance* or *place*, some nontwins tried to understand how their sibling felt, possibly out of fear. In one occurrence, a nontwin whose mom forced their sibling to stay in the state for college rather than “go... far-away” tried to imagine how her brother felt, since she has “always been afraid that her mother will do this to [her].” In another circumstance a nontwin tried to *anticipate her brother’s emotions* in order to evaluate his decision to “shave his head... for charity,” allowing for her to predict the “self-conscious[ness]” that he would feel “about the way he looked with no hair.”

RQ33. What is the essence of sympathy in the twin relationship?

The lived experience of sympathy for twins becoming emotionally affected by their co-twin’s experiences included many **themes** and *subthemes*, such as **achievement** (*sports, academics*), **health** (*physical, mental*), **relationships** (*isolation, conflict*), and **others**.

Twins sometimes felt their co-twin’s emotions alongside them when they experienced *failure* to meet expectations for **academic and sports-related achievement**. These expectations might have been their co-twin’s, such as when they were denied admission to one of their “top colleges,” or one of their sports events went “horribly.” Twins recognized that these *failures* “crushed” their co-twin’s “heart,” or “annoyed” them, and were also able to identify that “something happened” just by “the look on his face,” even though their co-twin might not have said “anything.” They described their own responses to their co-twin’s apparent “disappointment,” as “automatic” and reported “fe[eling] the same way.” One twin, for example, recalled reliving the negative sentiments associated with his past athletic *failures* after his

co-twin related his own, remembering that “exact feeling of frustration” and how “he knew he could have done so much better.”

Parental expectations of **achievement** for one twin also sometimes affected the well-being of both. The twin might have known that their co-twin had admirable qualities in spite of others challenging them, and became concerned at times about the *consequences of the impossibly high standards* that others had set for them. One twin whose parents “pressur[ed]” her co-twin to “do better in school,” despite the twin knowing that he was “actually a very responsible person in general,” reported feeling worried that he would “eventually become weary of all this expectation and lose his energy.” Another twin whose co-twin “was struggling with their grades” became “very disappointed and upset” due to the possibility of their co-twin facing “severe repercussions.”

Twins also became similarly emotional when their co-twin battled with **mental or physical health** problems. When a twin suspected their co-twin’s *well-being was in danger*, one twin, “started crying” out of “concern” over “if she would be okay or not.” Twins also sometimes *relived distressing emotional experiences* when their co-twin encountered a similar psychological challenge. One twin described their brother coming out to them as “kind of like looking back in time,” and said that because they “could imagine pretty clearly what he was going through,” they felt “very nervous and scared” for him.

When a co-twin experienced a **relationship** conflict or break up, some twins shared in its anguish. When a twin was replaced in a relationship with another peer, or became involved in a heated conflict with someone who they believed to be their friend, the twin sometimes took *their co-twin’s side* and experienced mirrored emotions. One twin described feeling alongside their

co-twin when his “twin’s best friend started leaving [his] twin out of things and got a new best friend,” while another took a more initially *critical attitude*. Despite not believing her twin’s “friend choices” were “always the best for her,” reflecting a sort of *parent-like responsibility* for her co-twin’s choices, she eventually *took her sibling’s side* after seeing how her “‘friend’ became pretty aggressive and mean to her,” and instead “sympathized [with her twin] over the texts that were sent to her,” as well as “later on” when “some of that hate was directed to [her].” Another twin whose co-twin “couldn’t find her uniform clothes” during PE felt “angry but also sad” like her co-twin after realizing that “it was one of [their] friends that stole her items,” specifically after her “sister cried.”

Twins also discussed personal experiences of feeling their co-twin’s pain or *outwardly expressing their emotions* in concert. One twin claimed there have been “many times,” especially when she was “younger,” where “something happened to [her] twin” and she “felt her pain” despite not knowing its specific cause. She detailed one particular instance in which her and her twin “for the first time... weren’t in the same class and something happened and caused her to cry,” which caused her to “start crying.” Another twin recollected similar incidents in which she could “feel what [her twin] [was] feeling,” and affirmed that sometimes she “just starts crying for no reason because [she] can feel [her twin] is upset.” Additionally, a twin remembered that “as a baby, [she] would cry when [her twin] did” such as when her co-twin was “being “ignored.” However, she notes that “even now,” she “becomes upset if [she] feels that [her] twin is being treated unfairly,” reflecting a possible *responsibility for her co-twin’s emotions*.

RQ34. What is the essence of sympathy in the nontwin relationship?

The lived experience of sympathy for nontwins becoming emotionally affected by their co-twin's experiences included many **themes** and *subthemes*, such as **achievement (academics)**, **punishment**, **health (physical, mental)**, **relationships (romantic, isolation)**, and **others**.

Older nontwins whose siblings were experiencing an **academic** or power struggle similar to one from their sibling's past reported feeling the same *negative emotions as they had previously*, and might have felt a recurring *powerlessness in helping*. They might have felt "frustrated," or as if the "anxieties of the past" were "flooding back," after their younger sibling took the same "very difficult class" or went through the same argument with a parent as they had on "multiple occasions." They might have *taken their sibling's side* in this instance, such as one nontwin who "felt really bad "that their sibling was 'forced' to stay on a team after "months of saying that they hated it." Younger siblings might experience their sibling's pain as a means of better understanding an older sibling. For example, one younger sibling explained that when her "sister shares a story that [she] has not yet experienced," such as one "involving a party or a boy," she tries to "feel like she did without actually experiencing it," and resultantly "get[s] sad when she does because [she] can understand what she is feeling."

Nontwins also felt their sibling's emotions when they became concerned about their **mental and physical health**. They might have dug deeply into their psychological and physical pain, and experienced *emotional outbursts* as a result, as well as, if they had a lack of current contact with the afflicted sibling, intensified distress. In one incident, a nontwin whose sibling and her got involved in a bad accident "cried" after imagining the amount of "pain he was in and how scared he probably was," a response aggravated by her inability to "contact him." Furthermore, when one nontwin's brother experienced an allergic reaction, she "felt the pain he

was in” in spite of never having gone through the “exact same thing.” Another sibling who *had never experienced her brother’s symptoms* of “becoming emotionless” as a consequence of “becoming severely depressed” tried to “understand how he felt,” the “thought” of their own “intense pain” when she “felt nothing” making her cry. **Adjustment** to a *new place* might spur comparable preoccupation with a sibling’s well being. For instance, when one nontwin’s sister “went out of town during the summer alone,” their inability to contact their sibling in an unfamiliar environment made them “very scared.”

However, it is also possible that an *emotional outburst in response to a health* complication was attributed to personal characteristics rather than just to being invested in their sibling relationship. By way of illustration, one nontwin recalled “crying” in response to their brother crying after receiving shots, soon coming to realize that she cries “when others cry even though [she doesn’t] feel what they are feeling,” including just those she “interact[s] with daily.”

When a relationship failed to last or a sibling failed to avoid *social isolation*, the *failure sometimes became communal* as they become preoccupied with their sibling’s negative emotions. They might have put aside an initially *critical attitude* toward their sibling’s **relationship** or *felt responsible for their sibling’s emotions* in order to reach this sentimental state. One nontwin “got really sad” when his brother “broke up with his middle school girlfriend” after recognizing that he “was very upset,” in spite of the fact that “[she] didn’t like the girl that much” and “[she] wasn’t the one in the relationship.” In another case, a nontwin *felt responsible for her sibling’s emotions* after her sister “became upset” that no one could spend the day with her,” a *social isolation* caused by the nontwin’s instruction to her sibling’s friends to “say they couldn’t do anything with her” since she “planned a surprise.” In a similar occurrence, a nontwin “felt

sympathetic” for her brother when he described “a dream where he imagined himself alone on his birthday.

Discussion

Individuation Construct

RQ1. Does sibling status (being a twin or a nontwin) affect the likelihood of siblings participating in the same extracurricular activities (e.g. sports, clubs)?

Twins and nontwins were equally likely to participate in the same extracurricular activities (Table 1). There is a possibility, then, that when it comes to extracurriculars, twins are likely to be permitted to choose based on their own individual interests, just as nontwins typically are. No significant difference between opposite-sex twins and same-sex twins emerged (Table 1). Although, same-sex nontwins were found to be 6 times more likely to participate in the same activities than opposite-sex nontwins (Table 21). This difference could be attributable to the tendency for, in the words of one adolescent twin subject, “people to treat twins the same and equally.” On the other hand, nontwins are generally attended to separately, introducing greater opportunities for gender separation even if opposite-sex twins usually do have divergent interests (Segal, 2017). Twin experts have advised for parents of twins to encourage their children to partake in separate activities to foster social development apart from the twin relationship (Friedman, 2008). Although, given that none of the enmeshment responses showed a significant difference, the effect, at least in adolescence, that similar activities has on emotional development, seems minimal (Tables 7, 8, 9 and 10). Twins, regardless of sharing activities outside of school, expressed empathy and sympathy related to their co-twins’ activities (such as sports). For example, both twins who reported sharing “all or most” of their extracurriculars,

such as the twin who was able to take her co-twin's perspective on not being able to accomplish a "breaststroke," and those who shared "none," like one whose co-twin had to sit out for "basketball season," experienced empathetic and sympathetic moments. In spite of only nontwins' responses showing significance, gender did seem to play a role in determining extracurricular interests in both twin and nontwin groups (Tables 11 and 21). For instance, one opposite-sex twin refused to "play frisbee" with her male co-twin due to it being more associated with "boy[s]."

RQ2 and RQ3: Does sibling status (being a twin or a nontwin) affect the likelihood of siblings being dressed alike (i.e. similar/ identical clothing) during some period of their lives (e.g. infancy, childhood)? Does sibling status (being a twin or a nontwin) affect the likelihood of siblings later choosing to dress alike without encouragement from family or friends?

Adolescent twins and nontwins were equally likely to choose to dress alike without encouragement from family or friends (Table 3). There is a possibility, then, that nontwins, despite being over 4.9 times more likely than twins to have never been dressed alike in youth, tend to even out with age in terms of outward association to the sibling pair (Table 2). This abatement could be attributable to adolescent twins sometimes forcefully separating their clothing in spite of their similar styles (Määttä, Päiveröinen, Määttä, & Uusiautti, 2016). Moreover, the lack of influence that gender has on siblings choosing to dress similarly presents this clothing divergence as a natural sign of adolescent separation-individuation and assimilation into an individualist American society (Blos, 1979). There was no evidence that twins dressed the same in childhood had difficulty separating from their co-twin during adolescence, as has been suggested by the literature (Table 8; Wilson, 2017). However, there was also no evidence

that dressing twins the same in childhood forced parents to know their twins more as individuals (Table 2; Cartwright, 2018). Instead, this behavior tended to occur in common with comparisons in adolescence, as indicated by the 85.7% of twins that were compared who also were dressed alike in the past (Table C47). This strong association could be attributable to parental tendencies to treat their twins as a unit (Friedman, 2008). Furthermore, sometimes twins expressed empathy over having to put aside personal preference in favor of being dressed similarly by a parent. For example, one twin set understood the exasperating nature of similar dress after both of them had experienced not “get[ting] the hairstyles [they] want[ed]” due to their parent coordinating their coinciding appearances.

RQ4: Does sibling status (being a twin or a nontwin) affect the likelihood of siblings having the same friends?

Twins were over 5 times more likely than nontwins to share all or most of their friends (Table 4). This result was not affected by sex combination for either twins or nontwins (Tables 14 & 24). Therefore, twins in general were more likely to seek each other out as companions and have similar tastes in friends compared to their nontwin counterparts, a finding which generally supported the literature . Although, same-sex twins being equally likely to share friends somewhat challenged the claim that same-sex twins are more likely to be playmates than their opposite-sex counterparts (Table 14; Malan, 2014). However, twins also tended to be compared against each other more when they shared friends, as evident in 96.4% of twins who shared friends that also reported being at least sometimes compared (Table C44). There was no quantitative evidence supporting some twin experts’ belief that without separate friends, twins might have more difficulty discovering and defining themselves as individuals (Tables 7, 8, 9

and 10; Friedman, 2008). However, maintenance of relationships with the same people might have been one reason for high rates of comparison among twins (Table 6; Fotheringham, 2000). Although, twins often sustained self-other distinction when providing support for their co-twin, as exemplified by their expressions of empathy over relationship conflict and isolation. For example, when one twin's co-twin separated from their best friend, she "realized how hurt [her] sister was." However, some twin and nontwin siblings also experienced sympathy for their co-twin when they encountered conflicts with their friends, such as when one twin "felt angry and sad like [her twin] did" after "one of [their] friends [...] stole their items," or a nontwin "shared [her sibling's] feelings of sadness and disappointment" after "no one could spend [her birthday] with her." Even then, twins who only shared some of their friends could also feel their sibling's emotions when their relationships proved unbeneficial, including when a co-twin's friend was replaced.

RQ5: Does sibling status (being a twin or a nontwin) affect the likelihood of siblings sharing a room?

Twins were over 12.6 times more likely than nontwins to share a room in adolescence (Table 5). Same-sex twins were over 28 times more likely than opposite-sex twins to share a room during this period, while same-sex and opposite-sex nontwins were equally likely not to share a room (Table 15 and 25). There was no quantitative evidence that twins who shared a room had difficulty emotionally separating in adolescence, which does not support some twin experts's urges for separate bedrooms from birth (Table 8, 18, and 28; Friedman, 2008). Additionally, out of those that were compared, there was a smaller proportion of twins who

shared a room (35.7%) than did not share a room (64.2%). (Table C46). These data suggest that twins who do not share a room are still subject to comparisons, possibly because having space for self-expression does not affect others' perceptions of twins' separate strengths (Friedman, 2008). Furthermore, neither twins nor nontwins discussed sharing a room in their descriptions of empathy and sympathy, indicating that it might not play a large role in overall emotional health in twin relationships.

RQ6: Does sibling status (being a twin or a nontwin) affect the frequency of intersibling comparisons?

Twins were over 5.6 times more likely than nontwins to always be compared to each other (Table 6). Differences between same-sex and opposite-sex twins in frequency of comparisons were insignificant, as was also true with nontwins (Tables 16 and 26). There was no quantitative evidence that twins who were compared had difficulty emotionally separating in adolescence (Tables 7, 8, 9 and 10). Twins who were compared actually commonly shared friends, which somewhat contradicted the literature, at least in the short-term, that disassociation from the co-twin is a consequence of intertwin comparisons (Segal, 2017). Although, sharing friends could be a sign of the high intimacy and social codependency affiliated with the draining relationships sometimes developed by twins compared in youth (Pietilä, Björklund, & Bülow, 2012). However, these psychological effects might manifest in the long-term instead, after the passage of adolescence, which could also explain why no significant difference in enmeshment was found (Tables 7-10, 17-20, and 27-30). Comparisons emerged as one of the key subthemes in twins' descriptions of their empathetic and sympathetic experiences. The reasons for their prevalence seemed to adhere closely to the twin literature, including a failure to recognize twins'

differing aptitudes and interests, which one twin subject “wish[ed]” society would “focus more on” (Friedman, 2008). Thus, empathy might not result from healthy competition and distinguishment between twins, as suggested by Schave and Ciriello, but rather, in some cases, grouping them together (1983). Their stories also seemed to challenge the existing claim that parents push back against societal efforts to compare twins, who rather seemed to reinforce the behavior (Conlon, 2009). The twin who the comparisons tended to scapegoat appeared to experience abated achievement, as was the case with one twin who felt that his co-twin “ha[d] always been better at school” than him, but likely not because of codependency as predicted in the literature (Bryan, 1998).

Enmeshment Construct

RQ7: Does sibling status (being a twin or nontwin) affect the frequency with which siblings feel too involved in their sibling’s problems?

Twins and nontwins were equally likely to feel too involved in their sibling’s problems (Table 7). This result remained nonsignificant for both same-sex and opposite-sex twin and nontwin pairs (Tables 17 and 27). Although twins’ identities did seem to be overlooked at times through comparisons, sharing a room, and being dressed alike in childhood, they still managed to have similar levels of enmeshment to nontwins (Tables 7-10). For instance, when a sibling experienced a health problem, twins and nontwins both sometimes experienced emotional outbursts contributed to by a lack of contact. In the case of a twin or a nontwin confronting intense physical pain, both twins and nontwins remembered having “cried” while wondering

whether or not their sibling “would be okay.” According to Dr. Klein, a healthy response focuses solely on understanding & reflecting on their sibling’s ailments (n.d.-a).

RQ8. Does sibling status (being a twin or a nontwin) affect the frequency with which siblings feel that they cannot separate emotionally from their sibling?

Twins and nontwins were equally likely to feel that they could not separate emotionally from their sibling (Table 8). Sex combination had no significant role in determining intersibling and intertwin emotional separation (Tables 18 and 28). This nonsignificance contradicted stereotypes of twins being emotionally dependent on each other and completing each other, which have in the past influenced separation policies for twins (Malan, 2014). This lack of emotional intertwinement was true of most same-sex nontwins in spite of their greater tendency to be dressed alike in childhood and involved in the same extracurriculars (Tables 21 and 22). An inability to separate emotionally from the sibling might have manifested in “becom[ing] upset” when a twin felt that their co-twin was “being treated unfairly.” or getting “really sad” that their sibling’s relationship ended even though they were not “the one in the relationship.”

RQ9: Does sibling status (being a twin or a nontwin) affect the frequency with which siblings get emotional when they listen to their sibling’s problems?

Twins and nontwins were equally likely to get emotional when they listened to their sibling’s problems (Table 9). Sex combination played no role in whether twins or nontwins became emotional after listening to their sibling’s problems (Tables 19 and 29). Nontwins and twins who reported “always” feeling emotional when listening to their siblings’ problems sometimes reflected this poignancy in their sympathetic expressions, such as the twin who reported being “nervous and scared” after their twin came out to them, or the one who felt

personally “crushed” when their co-twin was not admitted to their college of choice. Nontwins who felt a similar stirring might have cried at the thought of their sibling’s “extreme [...] depression.”

RQ10: Does sibling status (being a twin or a nontwin) affect the frequency with which siblings feel that they need to fix their sibling’s problems?

Twins and nontwins were equally likely to feel that they needed to fix their sibling’s problems (Table 10). This frequency of feeling responsible was nonsignificant for both same-sex and opposite-sex twin and nontwin pairs (Tables 20 and 30). This feeling of responsibility might have been attributed to an imbalance between a shared and independent identity, which is mostly associated with twinship in the literature (Friedman, n.d.) Nontwins who felt the need to fix their sibling’s problems might have had experiences in which they shared their sibling’s feelings of “sadness and disappointment” when their sibling faced social isolation. Nontwins who did not feel the need to fix their sibling’s problems, however, still reported experiencing their sibling’s anger and “frustrat[ion]” toward their parents when they forced their sibling to do something they “hated.” None of these results varied significantly for sex combination either, which challenges Schave & Ciriello’s 1983 results that opposite-sex twins were the only type that did not experience enmeshment (Tables 7-10, 17-20, 27 and 30).

This lack of significance for enmeshment between twins and nontwins, as well as same-sex and opposite-sex siblings, was surprising considering the vast emphasis that the literature has placed on twins’ difficulty establishing separate identities (Schroeder, 1989). Perhaps, then, Ainslee’s claim that physical similarity is a less formative aspect of inter-twin identification than the simultaneous presence of two infants can be extended to nontwin

relationships (1997). It is also possible that these problems with sibling separation have not yet fully emerged in adolescence, since even if adolescence is considered the second stage of separation-individuation, most familial ties will remain until separation becomes more profound, such as during early adulthood (Blos, 1979; Siemon, 1980). However, by examining the relationship between how twins and nontwins *are* individualized (such as engaging in different extracurriculars, choosing to dress differently much of the time), and how they are *not* (having the same friends, dressing alike in childhood, being compared, having the same room), it became possible that some of the components of individuation emphasized by twin experts do not have as much of an impact on intertwin emotional involvement as was originally believed. Rather, practices such as intertwin comparisons, mentioned frequently in twins' qualitative responses yet less so in the literature, might be worthy of the most attention given their ability to affect twins' public and private self-image (Friedman, 2008).

Limitations

While all participants satisfied the criterion essential for conducting the phenomenology (experiencing empathy or sympathy within their sibling relationship), the quantitative portion might have been better suited for a random sample. Therefore, the results might not be completely representative, given that the vast majority of participants came from the researcher's high school, which has a relatively homogenous demographic. Furthermore, the sample tended to over represent fraternal twins compared to identical, who only comprised around 13.8% of the recruited twins. Additionally, female participants outnumbered participants identifying as male or other in a ratio of approximately 3 to 1, so quantitative and qualitative results are primarily reflective of female experiences, which might have been more empathic (García, Cetkovich, &

Ibáñez, 2017; Mestre, Samper, Frías, & Tur, 2009). A model sample would have a relatively equal number of each of these groups to ensure that each group's experiences are accounted for, and would be divided based on these factors to reduce the variability present in each group. A lack of member checking could have also affected the themes and codes constructed from the qualitative questions, since participants sometimes provided experiences that the researcher found difficult to decipher, or claimed to be describing empathy when what they were really describing was sympathy. If the researcher had the opportunity to conduct focus groups with twins and nontwins in which they could elaborate on the intended meaning of their responses, the data might have been more accurate. Although, debriefing of the responses by experts in the health sciences as well as adolescent peers was completed an effort to maximize understanding of each participant's account. Order effects might have also affected survey responses. For example, the question "Are you and your twin compared by others (e.g. academically, socially)?" appeared before the question asking participants to give their experience of empathy, which might have caused subjects to be more likely to write about comparisons since the topic was already in mind. However, since twins were the only participants who wrote about empathy, and both the twins' and nontwins' questions were structured identically, it is unlikely that this reminder was the primary reason that twins' described being compared. The qualitative responses, however, might not have been completely representative of the sample who completed the survey, since only around 72% of nontwins and 79% of twins answered it. Some of the twins and nontwins contacted also never responded, declined to participate, or dropped out of the study, and thus were not represented in the results. Participants might have also misrecalled the details of specific instances of empathy or sympathy, a human error that was

attemptedly reduced through reminders to answer questions to the “best of their ability and recollection.” Social desirability bias, specifically for questions in the enmeshment construct, might have also played a role in participant responses, potentially causing subjects to admit lower or higher rates of emotional separation or compulsion to fix their siblings’ problems than they actually experienced. While this possibility was attemptedly reduced through de identification of the data, lower frequencies for some questions were nevertheless conventionally considered to be more socially acceptable.

Future Research

The concurrent mixed-methods study could be conducted with more participants to incorporate more diverse sibling experiences of empathy, sympathy, individuation, and enmeshment. Ideally, this sample would also have large numbers of both fraternal and identical twins, as well as other nonfemale genders, to more fully and individually capture the voices of these underrepresented groups. Higher order multiples, such as triplets, could also be included to enhance public understanding of how these phenomena exist in other multiple populations. The empathy and sympathy constructs from this mixed-methods study could be adapted into a valid and reliable instrument through creation of items reflecting qualitative findings and existent questionnaires intended to assess empathy and sympathy in other populations. These potential items could then be pilot tested, revised, and evaluated for face and construct validity. It is imperative to create such an instrument because, other than the fact that no instrument assessing empathy and sympathy in sibling relationships has been created, excessive empathy and sympathy for a loved one can lead to psychological consequences such as burnout and compassion fatigue (Figley, 1995). While these diagnoses have not yet been made for twins and

nontwins, its presence in those caring for patients or the elderly might also extend to those caring for struggling siblings in adulthood (Teater, 2014). Additionally, considering the persistence of controversy over twins being in the same classes, and the subjects in this study having reported spending an average of 4 years together in school despite twin experts' recommendations for separation soon after kindergarten, it would be valuable to do a qualitative study on twins' lived experiences of sharing a class with their twin (Fierro, 2019; Friedman, 2008). A phenomenology or grounded theory could be used to structure twins' descriptions of being the same and different classes, and their feelings on how their twins' presence had affected their overall social and academic experiences in each circumstance. Moreover, since none of the questions in the enmeshment construct in the present study showed significance, it would be useful to conduct a longitudinal study on the twins' and nontwins' who participated. This study would allow for assessment of how their responses to the items might change with age, especially considering the prevalence in the existing literature of claims that a lack of individualization in youth results in intertwin codependency in adulthood (Klein, n.d.-b; Siemon, 1980; Wilson, 2017). Lastly, given the lack of agreement of the literature with the quantitative and qualitative results regarding intertwin comparisons, it would be informative to conduct qualitative interviews with both twins and parents of twins to understand how both sides view this phenomenon, and appraise whether these views complement or contradict one another (Conlon, 2009; Friedman, 2008).

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Appendix A

Table A1 Selected Examples of Significant Statements of Twin Empathy and Related Formulated Meanings

One time, [my twin] was not getting a breaststroke state cut, even though she was trying really hard. At the moment, I was being really mean to her about it, but in retrospect later on that day, I tried to empathize with how she was feeling. In that state of mind, I was able to give a heartfelt apology.	Twins whose co-twins <i>fail</i> to reach their <i>academic</i> goals might change their <i>critical attitude</i> after recognizing their twin's hard work and trying to understand how they felt. They might apologize to their co-twin if they feel their <i>critical attitude</i> was undeserved.
When my brother was only a couple points away from National Merit, I tried to put myself in his shoes hoping that he'd feel better.	A twin whose co-twin <i>failed</i> to reach their goals for <i>academic</i> achievement might try to understand what they are going through and hope for their well-being to improve despite <i>not having experienced something similar</i> .
At my middle school graduation, my sister received an award for second place for her GPA in the whole grade. When I heard this I was excited and happy for her.	A twin whose co-twin <i>succeeds</i> in their attainment of <i>academic</i> achievement might feel happy for them despite <i>not having experienced something similar</i> .
My twin has always been better than me at school, and better than most in fact. He usually gets a bunch of awards for being top in class or something like that. I have never gotten an award like that academically, and I always wondered how he felt. Most of the times he just shrugged it off and really didn't care. I didn't really understand how he felt like that. He showed no excitement and I knew if I had gotten an academic award, I would have been pretty happy and excited.	<i>Lack of experience with a co-twin's degree of academic achievement might prevent them from understanding their twin's emotional responses to these stimuli.</i>
When my twin was very stressed about the ACT.	Twins have felt empathy for their co-twin when they became stressed about <i>academic</i> performance on a standardized test.
I felt empathy for them when they were struggling with their grades.	Twins have felt empathy for their co-twin when they <i>failed</i> to <i>achieve</i> academically.

My mom sometimes compares my twin to me, and this comparison often upsets my sister. ⁹ I try to imagine how I would feel if someone examined my characteristics this way.	When parents compare twins, the one favored in the comparisons might feel bad for their co-twin, and try to imagine how it feels to occupy this lower perceived achievement position.
Any time my brother performs less academically than me and my parents compare him to me.	When parents compare twins, the one favored in the comparisons might feel bad for their co-twin, and try to imagine how it feels to occupy this lower perceived <i>academic</i> position.
Our mom yelled at [my twin] and sent them to “time out” in the bathroom. I understood that they were frightened and upset.	A twin might <i>anticipate</i> and understand their co-twin’s negative emotions when they endure punishment.
once my twin got in in trouble and I imagined how my twin felt.	A twin might imagine how their co-twin feels when they endure punishment.
[My twin] was in the hospital- it was a non-life threatening medical issue, but we didn't know that at the time. I'd never had to go to a hospital before that point, and I was pretty freaked out by all the machines. I tried to keep [my twin] calm by reading to him from a book I had, and he seemed to stop freaking out when I did that. I tried to put myself in his place, and I kinda just anticipated what I thought would keep him calm and content.	When twins perceive that their co-twin’s <i>physical health is in danger</i> , they might commit time to alleviating their twin’s ailments. They might <i>anticipate their emotions</i> to attempt to provide the most effective, sensitive response.
One time in middle school he got a broken arm and I felt bad for him because I've also broken bones.	A twin who <i>has already experienced</i> a co-twin’s <i>physical</i> injury might feel bad for them.
My twin sister got her blood drawn and was feeling lightheaded. I was preparing to get my blood drawn when she suddenly fainted. I called the doctors for help and thought it was funny at first. Then, I imaged what it felt like if that happened to me so I felt bad. I started to cry and hoped it wouldn't happen to me.	When twins perceive that their co-twin’s <i>physical health is in danger</i> , they might become focused on their <i>own well-being</i> alongside their sibling’s.

Looking back at the incident now, we both think it was funny.	
He once sprained his thumb and had to sit out for some of his basketball season. I empathized with his disappointment because I have done the same thing.	A twin who <i>has already experienced</i> a co-twin's <i>physical</i> injury <i>might understand</i> their twin's associated emotions.
When my sister broke her arm i felt really bad for her.	Twins might feel bad for their co-twin when they experience a <i>physical</i> injury.
I guess he was telling me about how he felt a bit depressed sometimes and I tried to cheer him up. We don't really share empathetic moments.	Twins might try to support their co-twin in their <i>mental</i> health struggles.
Well my twin was being super stressed out about school and managing her home life with her academic life. I couldn't understand why she was so stressed so I tried to put myself in her shoes. And then I realized that with all the factors contributing to her stress, that of course she would feel discouraged. I also realized that my thoughts about her being stressed over "nothing" was invalid and kinda selfish too.	A twin might change their <i>critical attitude</i> toward a co-twin's emotions after reflecting on their larger context and the sentiments' probable causes, which might provide them with an appreciable understanding.
My sibling was trying to get a girlfriend, and I tried to relate to him but couldn't because I'm asexual.	Twins <i>might have difficulty relating</i> to their co-twin's desires for a <i>romantic</i> relationship due to a <i>lack of emotional experience</i> .
I felt sympathy for my brother when he broke up with his long time girlfriend. Even though I knew the break up was for the best, I knew he was sad about it. I tried to do various things that would help take his mind off of it.	A twin might put aside their <i>critical attitudes</i> toward their co-twin's relationship after realizing their misery. They might try to ease their subsequent <i>psychological pain</i> by providing sensitive support.
One time, my twin wrote an argumentative paper where she wrote something along the lines of some Christians support Chick-fil-at	Twins might <i>take their sibling's</i> side against those inducing their co-twin's distress. They might understand potential <i>consequences</i> of their twin's actions due to knowledge of their

and do not support gays and gays rights. This one girl in our class apparently got really mad at my twin and told her that her grandmother is Christian but doesn't hate gays so that was a false statement. My sister said she pointed out that she had said the word some so it was not inclusive of every Christian. My sister told me a few days later that the teacher asked if she wanted to read her paper aloud because it was really good. When my sister refused to because of the criticism she knew she would face from that one sentence, the teacher decided to read it anyway. I can only imagine what she was feeling because I tried to imagine that she must have been horrified because it was going to impact any form of friends at that school because the school was so small. As a result of that paper, her math partner abandoned her and most people refused to speak to her for the remainder of our time at that school.

overarching context, such as possible *isolation* from peer relationships.

I have 2 siblings, a twin brother and a younger sister. My twin is the only boy so he's often alone in the house with 3 girls while my dad is at work. Once when we were little, he wanted someone to go outside and play frisbee with him. Neither me nor my sister wanted to. After pleading with us unsuccessfully for awhile, he threw a mini tantrum and complained that he didn't have a little brother to play with. I should have been annoyed with him (and I kind of was), but for some reason I mostly just felt like a jerk. Later I looked out the window and saw him throwing the frisbee by himself. Watching him march gloomily over to pick it up, I felt

Twins might change a *critical attitude* toward a co-twin's perceived pestering after considering their twin's *overarching context*, such as social *isolation* due to being a different *gender* from their other siblings.

very guilty and wondered how it would feel to be the only little boy in the house.	
My twin sister had an argument with one of our best friends. They split up. She was really depressed. They argued over something trivial. I felt angry at first at my best friend but then I realized how hurt my sister was. I felt what it was like to have your best friend end a friendship due to selfishness. I didn't want my sister to be sad.	Twins might <i>take their sibling's side</i> when they experience a <i>conflict</i> within a close relationship, putting aside <i>critical attitudes</i> in order to provide them with support.
Well, my mom does this thing where sometimes she tells us that we have to dress a certain way (rarely) or have similar hairstyles that she wants us to wear in order to "protect" our hair. And sometimes that stresses out my twin, because she never really gets the hairstyles she wants. And at first, I didn't understand the annoyance that was gained by my twin,---like I thought she was just overreacting. But then my mom told me I had to get the same hairstyle she wanted me too, and I realized how annoying and aggravating it was.	A twin might alter an initially <i>critical attitude</i> after switching roles during some sort of <i>unit treatment</i> , such as similar dress, which could then enable them to understand their co-twin's more subdued perspective.
When I'm upset or not feeling good he can sometimes tell without me having to say or do anything.	A twin might sometimes be able to <i>anticipate their sibling's emotions</i> wordlessly in a sort of automatic understanding, regardless of past experience.

Table A2 Selected Examples of Significant Statements of Nontwin Empathy and Related Formulated Meanings

<i>Significant Statement</i>	<i>Formulated Meaning</i>
My sister and I were involved in ballet for several years. I remember that every year we would audition for different roles in the recital. As an older sibling, I usually got more	Although an older nontwin might have been in the same activity as their younger sibling, their younger sibling might have a different experience due to factors such as skill-based ranks. Nontwins might feel that their sibling's

<p>central roles because I had been dancing longer. However, my younger sister (by barely 2 years¹ often got supporting roles and I didn't understand why she, who had put as much time and effort into dance as I had at her age, wasn't getting leveled up. I imagined what that must feel like for her, always working to one goal but never obtaining it because there was always a class ahead of her. I saw that she never enjoyed dance as much as I did later on, and I imagine she almost felt cheated for being alrighly younger.</p>	<p>experience is unfair, and take their side if they see a parallel from their experience. Being seen as less skilled due to being younger can also affect future opinions about an activity.</p>
<p>I experienced sympathy with one of my siblings when they faced rejection in their sport. I understood how it feels to go through that and I realize how destroying it can be because of my own sport so I tried to give input about knowing that you are good and skilled and that that rejection does not define you. I also did my best to explain that sometimes rejection can lead to success but it a different area and that maybe the thing you weren't accepted into would not fit the work you need.</p>	<p>Being an older sibling can <i>enhance understanding</i> of sibling experiences, such as sports, if their experiences were similar. This greater understanding permits for <i>input</i> to be provided, which can include explaining possible alternatives.</p>
<p>My brother went to college in Washington DC for a semester and hated it because his classmates were obnoxiously wealthy. He failed out of that school and I felt awful for him, because he'd worked hard to get there.</p>	<p>Nontwins feel bad for their sibling when they fail to achieve their <i>academic</i> goals in spite of hard work. They might <i>take their sibling's side</i> against those that they believe are preventing the goal from being met.</p>
<p>There are times where my sibling is yelled at or get in trouble with our parents due to grades, although he is trying, which leads him to being stressed.</p>	<p>Nontwins take their sibling's side since they recognize their sibling's hard work, and understand how punishment adds to their sibling's emotions.</p>

<p>One time I felt empathetic for my sister was when she was failing a class. This was also around the time of the peak of football season and it meant she would no longer be able to cheer at games because of the school's policy. I could tell it was really hurting her and she felt embarrassed above everything and I tried to imagine what it felt like.</p>	<p>Nontwins can sense changes in their sibling's emotions, including identifying those that are most predominant. They understand how <i>factors outside of the immediate situation</i> affect other aspects of their sibling's life.</p>
<p>they got in trouble for a fight we got in and i felt bad bc i was apart of it too but he was in trouble because he's a boy</p>	<p>Nontwins feel guilty when they are excluded from deserved punishment because of factors such as <i>gender</i>.</p>
<p>I am not very in tune with the empathetic world but I tried my hardest to understand what my sister was going through in her severe depression. While I'm not certain that I understood what she was feeling, I believe that I had some comprehension of her mentality and rationale.</p>	<p>Nontwins put aside their beliefs about their ability to empathize in favor of trying to understand their sibling's <i>mental</i> health.</p>
<p>I try to sympathize with my sister about her desire for a meaningful relationship. While I have had two and she hasn't had any, I believe that I achieved a similar sensation in the period between the two of these and try to advise her through my thoughts on the matter</p>	<p>Older sibling's <i>past experiences</i> with their sibling's current romantic problems give them the qualifications to provide their siblings with <i>input</i>.</p>
<p>When I was in elementary school my sister was having trouble maintaining a relationship with her friends in the same grade. I never had any trouble with my friends because I was part of a small group whereas she was part of a larger group. She came to talk to me about it. So I tried to understand although I didn't identify with these problems myself.</p>	<p>Nontwins seek each other out for support when they experience <i>isolation</i> from their social group. Nontwins who understand the nature of their sibling's relationships might try to understand these social problems even if they have not experienced them.</p>
<p>They didn't have a very strong social group at school and I could empathize with how hard that could be sometimes.</p>	<p>Siblings can understand their sibling's psychological pain due to <i>isolation</i> from their social group if they have <i>experienced</i></p>

	<i>something similar before.</i>
At one point this year, my sister was having some trouble with her friends. Some more people had come into her friend group who she wasn't comfortable around. I could understand how this would feel, although I wasn't personally experiencing something like it.	Nontwins who <i>understand how their sibling responds</i> to others can understand how their sibling feels when they experience conflict within their social group.
Well, since I'm younger, some things are experienced by my sister before I can understand what she's going through, which is why I try my best. But there was a time when my sister got into a quarrel with some other girl (actually there were several instances but oop-) and stood up for herself and went IN on that girl. Like IN IN. I was not present when that happened, but I was informed of the situation, and I tried to collect a sense of how that would have played out the way it did, such as: what was the girl doing? why is she messing with people? what happened exactly? etc.	While being younger might make it more difficult for nontwins to <i>understand some of their sibling's experiences</i> , they still try to take their sibling's perspective. In instances of conflict with others, nontwins might <i>take their sibling's side</i> .
I at one point tried to imagine how it felt when one of my siblings was having trouble with their teammates for soccer. I don't work with as much group effort in my sport as they do so I tried to empathize by trying to encourage individual work and effort and acting as if the people weren't there. Knowing also that these girls weren't the nicest, I struggled to give input because I believed they wouldn't be good friends but I understood that my sibling needed to get along with them to be able to work as a team.	Older siblings might <i>struggle to provide input if they have not experienced</i> a similar conflict as their sibling. However, they might <i>still try their best to provide support</i> by taking their sibling's side and considering the nature of the sibling's environment and their opinion of people with whom they must share it.
My brother decided to shave his head a few	Nontwins can <i>anticipate</i> their sibling's emotions about adjusting their <i>appearance</i> ,

years ago for charity. He was very excited and eager to do it however i was hesitant. once he did it it was quite obvious that he was self conscious about the way he looked with no hair. i still feel bad for him because every time we see a picture from that time period of his baldness, he cringes.	even if their sibling is unable to. This sensitivity can become <i>long-term</i> if the sibling's opinion of their <i>appearance</i> persists.
My mother decided to keep my brother in Louisiana rather than let him leave the state to go to a far-away college. I've always been afraid that my mother will do this to me, so I tried to understand what he was feeling.	Nontwins might try to understand their sibling's <i>new situation</i> out of necessity, due to a fear of being placed in the same predicament, such as being <i>treated like a unit</i> by a parent.
My sibling had to adjust to a new school.	Nontwins try to understand how their sibling feels when adjusting to new places.

Table A3 .

Selected Examples of Significant Statements of Twin Sympathy and Related Formulated Meanings

A time where I sympathized with my twin would be when my brother wasn't accepted to one of his top colleges. It really discouraged him and crushed his heart and I felt the same way. I remember when he received the letter initially excited and happy to see his status. When he opened it, I could tell from the look on his face that something happened. He was denied admission which really hurt everyone who was around at the time. I felt really bad for my brother and I did my best to comfort him.	When a co-twin fails to reach their academic goals, such as being admitted into a college of choice, a twin might take on their co-twin's discouragement. <i>Sensitivity to their co-twin's facial expressions and emotions</i> might heighten their understanding of how their twin feels. They might also try to comfort their twin in their shared hurt.
He worked on a paper for a long time and it got deleted. Although I hadn't experienced that, I could sympathize with his anger and frustratuon.	When twins witness their co-twin experiencing <i>failure</i> in spite of their hard work, they might feel their co-twin's psychological pain, <i>even if they have never experienced anything similar</i> .

<p>My twin is a smart guy who wants to get a degree in chemical engineering. My mother is proud of him but she is always pressuring him to do better and study more and be more responsible, but I know he is actually a very responsible person in general. He's a chill guy, so I never knew how much the excessive pestering bothered him until one day when he cracked under the pressure and responded harshly to her. I worry that he'll eventually become weary of all this expectation and lose his energy.</p>	<p>Twins <i>take their sibling's side</i> when they understand their hard work and qualities, believing that others challenging their co-twin's efforts are in the wrong. They might become concerned about how their sibling will <i>fare in the long-term</i> under unrealistic expectations.</p>
<p>Recently, my twin came back from this athletic event. Even though he didn't say anything, I could tell on his face that this event went horribly. He walked in very mad and annoyed. When I found out the specific reason why he was mad, I automatically got this feeling like it had happened to me. Being an athlete myself, I knew that exact feeling of disappointment and frustration. He knew he could have done so much better and I felt that same feeling in me when I thought of the times I was disappointing in my athletic performances.</p>	<p>Twins might <i>recognize their co-twin's moods without being told</i>. When his suspicions were confirmed, he took on his co-twin's feelings out of understanding, and returned to a <i>similar negative past experience</i>.</p>
<p>A time where I empathize with my brother would be whenever people compare us. People compare us in many ways, physically, academically, and behavior wise (socially). I am known to be the "smarter" twin out of the two of us and I can imagine the embarrassment my brother feels whenever we are compared which makes us both uncomfortable. whenever our mother would show people our report cards for example they would always question my brother about trying to study harder in school and make</p>	<p>Twins can <i>identify specific ways in which they are compared</i>, which affects their self-perception. They might understand their co-twin's response to these <i>comparisons</i> when their twin is not meeting their achievement, and become personally hurt when these emotions are negative. They might become frustrated with their <i>treatment as a unit</i> by their parents and society, such as not being recognized for their individual interests.</p>

<p>better grades. It hurts me that people always comment about my brother's academic abilities and I wish that they can focus more on the fact that me and my brother have different interests and that my brother has a harder time understanding school material.</p>	
<p>When my twin was struggling with their grades, I was very disappointed and upset because if she didn't get her grades on track, there would be severe repercussions. I decided to put myself in her shoes, and it gave me much empathy about her situation.</p>	<p><i>Although twins might not have been through a similar experience with academic failure as their co-twin, they might feel upset out of concern for the co-twin's possible future consequences.</i></p>
<p>When my twin sprained her ankle, she had to go to the hospital. At the time, no one knew it was a sprain and thought it was more serious than what it actually was. I felt bad for her and was concerned if she would be okay or not. Then I started crying as she was taken to the hospital.</p>	<p>When a co-twin's <i>health is perceived to be in danger</i>, twins might focus solely on their twin's well-being to the point of <i>becoming emotional</i>.</p>
<p>I felt empathy for [my twin] when he came out to me- I'm also queer, so it was kind of like looking back in time and experiencing a lot of the same emotions. I could imagine pretty clearly what he was going through, and I was really emotional about it for a long time. I'm still very nervous and scared, and I check in on him to see how his mental health is faring.</p>	<p>A frightening experience such as coming out can lead to a twin's <i>reliving of negative emotions</i> when they realize its <i>similarity of their co-twin's experience</i>, due possibly to the event's poignancy. When these emotions extend into the present, they might check in with their co-twin to ensure acceptable mental health.</p>
<p>When my twin's best friend started leaving my twin out of things and got a new best friend</p>	<p>Twins might experience the <i>psychological pain</i> of being replaced in a friendship alongside their co-twin.</p>
<p>There was this "friend" that my twin had and her friend choices are not always the best for her. This "friend" in particular she met when she was doing lifeguard training, when my</p>	<p>Twins might show signs of a <i>parent-like responsibility</i> for their co-twin's relationships, and <i>take their side</i> both prior to and <i>following their own encounters</i> with the same person.</p>

<p>twin failed her required tests twice and was fired, her friend became pretty aggressive and mean to her. Her "friend" would text to my twin and say these awful things to her. As I worked with her "friend" I realized how if she does not think she has power over others, then she gets really mean. I definitely sympathized with my twin over the texts that were sent to her and even later on some of that hate was directed to me. She felt awful about herself because she had made another poor choice of a friend and I felt awful for her because I eventually knew what it felt like and I felt awful that she had to experience that from someone she had believed to be a "friend". At the beginning of all of the mean texts I just felt bad that it was only her and no one else had that because she was pretty popular with everyone else.</p>	<p>They might temporarily put aside their critical attitudes toward their twin's relationships, and feel their twin's <i>psychological pain</i>.</p>
<p>During PE at school, my twin couldn't find her uniform clothes since somebody stole it. She realized that it was one of our friends that stole her items. After knowing that, she was angry but also sad. My sister cried when the person that stole her clothes was caught my our teacher. I felt bad about what happened to my twin. I felt angry and sad like she did.</p>	<p>When twins experience <i>conflict</i> in their friendships, perhaps a <i>friendship</i> that both are involved in, a twin might <i>take their co-twin's side</i> and share in their emotions. These emotions might first be explicitly communicated by an action.</p>
<p>There are many times where something happened to my twin when I was not with her and I felt her pain. I felt like it happened to me even though it didn't. For example when we were younger and it was the first time where we weren't in the same class and something happened and caused her to cry, and when I saw her crying I started crying. Things like that used to happen a lot when we</p>	<p>Twins' experiences of their co- twin's emotions might happen often (possibly changing with age), and sometimes after a sudden separation from their co-twin. After witnessing their co-twin's emotional expression, they might feel what their twin feels and manifest it in a similar <i>outburst, like whatever happened to their co-twin also happened to them</i> (even if they do not know what the event was).</p>

were younger, but it doesn't happen as much anymore.	
Yes sometimes i can feel when he is feeling. Sometimes i just start crying for no reason because i can feel he is upset.	Some twins report being able to occasionally feel what their twin feels, even manifesting these shared <i>emotions outwardly</i> in spite of having no personal reason for an <i>emotional outburst</i> .
As a baby, I would cry when [my twin] did, even if I didn't have a personal reason to do so. If it was [my twin] being ignored and she began to cry, I would begin to cry. Even now, I become upset if I feel that [my twin] is being treated unfairly.	Twins might have experienced <i>emotional outbursts</i> in childhood in response to their twin's overt emotional expressions or their co-twin being ignored. These experiences might last into adolescence, perhaps appearing in cases where the twin feels responsible for their twin being treated unfairly.

Table A4 Selected Examples of Significant Statements of Nontwin Empathy and Related Formulated Meanings

My younger sister is taking a class that I took in a previous year at school. It was a very difficult class for me and since she slipped a grade, I imagine it's even harder for her. So far, she has done well in the class, but she keeps getting B's on the tests. Because I see her often after school, her stress about taking a test in the class is often reflected on to me. My own anxieties of the past come flooding back and I feel upset that she is still working through her own.	Older nontwins whose siblings struggle to meet their academic goals might have experienced a similar stress to their sibling when they had endured a similar difficulty. Due to a period's associated negative emotions, some nontwins may fail to help their siblings to <i>cope with this failure</i> (i.e. they cannot help their sibling out of their pool of emotions because they are now facing their own).
Our dad forced them to stay on the swim team after months of saying that they hated it. I felt really bad and frustrated because I had gone through the same things as my sibling on multiple occasions.	Nontwins whose siblings experience a relationship conflict resembling their own might <i>take their sibling's</i> side against the figure. Their unresolved <i>negative emotions affiliated with the event</i> might return.
One time my brother and I got in a bad ATV	Nontwins who perceive their sibling's

<p>accident and he had a giant gash in his leg. He had to be rushed to a hospital and I stayed at the camp we were staying in. I imagined how much pain he was in and how scared he probably was and I cried for about 10 minutes worrying about him and imagining how he felt because there was no way to contact him.</p>	<p>physical injury as a potential <i>danger to their health</i> might have experienced an <i>emotional outburst</i> following their reflection on their sibling's possible negative emotions, perhaps more so when they cannot contact them.</p>
<p>The only time I can remember that can come kind of close was when we were at the dentist and he had something bring done with his teeth? It may have been the numbing shots that cause his reaction, but he was crying hard. For some reason I started crying as well as a reaction to the crying, but I personally didn't feel anything really. I have come to realize that I cry when others cry even though I don't feel what they are feeling. Otherwise, I don't ever recall feeling the same emotion he has unless we both were going through the event. Although this is the same case with people I interact with daily.</p>	<p>Nontwins might have imitated their sibling's emotions in an <i>emotional outburst</i> despite not feeling these emotions. They might realize later that they are just sympathetic criers in general.</p>
<p>He told me he was becoming extremely depressed and was becoming emotionless because of it. I've been depressed before, but I always feel many emotions and can never describe myself as emotionless. I tried to understand what he went through to understand how he felt and the thought of it made me cry because the only time I went through an experience that made me feel nothing, I was in such intense pain I wanted to die.</p>	<p>Nontwins <i>who have never experienced</i> their sibling's state of <i>mental health</i> might have <i>difficulty relating to their sibling</i>. They might <i>relieve their negative experiences</i> from their own mental health challenges, and might have an <i>emotional outburst</i> due to its associated psychological pain, and as a result become <i>powerless in helping</i>.</p>
<p>When my brother broke up with his middle school girlfriend he was very upset because they had been dating for two years. When he told me, I got really sad that the relationship</p>	<p>When nontwins become preoccupied with their sibling being upset, they might make the failure of their sibling's <i>romantic</i> relationship into a communal <i>failure</i> despite a lack of involvement, and even put aside a <i>critical</i></p>

had come to an end even though I didn't like the girl that much and I wasn't the one in the relationship.	<i>attitude</i> toward their sibling's partner.
Sometimes when my sister shares a story that I have not yet experienced for example a story involving a party or a boy I try and sympathize with her by trying to feel like she did without actually experiencing it.	Younger nontwins who have not had the chance to explore more mature social groupings, such as romantic relationships, might try to <i>feel what their sibling felt like</i> in those experiences, rather than just understand.
This year for my sister's birthday we planned a surprise, so I told her friends to say they couldn't do anything with her. However, she became upset because no one could spend the day with her. She cried a lot to me and confessed that she was disappointed. I felt very bad for her and almost told her about the surprise in her distress. When she was emotional, I shared her feelings of sadness and disappointment.	Nontwins might share in their sibling's negative emotions during their social isolation when they <i>feel responsible for their cause</i> , in spite of good intentions.
One time my brother described how he had had a dream where he imagined himself alone on his birthday, and I felt sympathetic for him.	One nontwin's dream of social isolation might become a <i>common failure for interpersonal intervention</i> .
During the first few days that we moved to New Orleans, my sister was feeling confused and sad. Although I didn't feel these emotions as strongly as her, I was able to sympathize with her.	Nontwins might feel their sibling's emotions when they go through a common adjustment, but perhaps not as strongly.
When my sister went out of town during the summer alone; I would be very scared	Nontwins might <i>focus on their sibling's well being</i> when they perceive that something <i>might happen</i> to their sibling during their period of <i>adjustment</i> , possibly more so due to a <i>lack of contact</i> .
He experienced reaction and I felt the pain he was in, even though I haven't gone through the same exact thing.	When a nontwin experiences a physical health complication, such as an allergic reaction, their sibling might feel their pain <i>despite not having ever experienced anything similar</i> .

When my sister gets sad about something I try to put myself in her shoes and imagine how she is feeling. I get sad when she does because I can understand what she is feeling.	Nontwins might try to imagine how their sibling feels when they experience negative emotions, possibly to the point of feeling them themselves.
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Table A5 Structural Description of Twin Empathy

<p>Twins described taking their sibling's perspective during their <i>academic and sports-related successes</i> and <i>failures</i> at many points in adolescence, ranging from 13 to 17 in locations such as graduations and food chains. <i>Comparisons</i> were viewed as occurring "a lot throughout the years" and "recently." Feeling bad for a twin being punished was more limited to early adolescence and childhood, at ages 6 and 12. Empathy expressed toward a co-twin as a result of a diminished <i>physical or mental health</i> exhibited a similar wide age range, from around 8 to 19, and occurred in medical rooms, a sports game, or at home. Relationship conflict, isolation, and romantic involvement was experienced from ages 11 to 18, at school or at home. General displays of the phenomenon, as well as during <i>appearance adjustment</i>, happened during mid-adolescence.</p>
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Table A6 Structural Description of Nontwin Empathy

<p>One nontwin at the age of 15 described taking their sibling's perspective at home after they shared their <i>sports-related failure</i>. Nontwins tended to imagine their sibling's experiences with punishment around the ages of 14 to 17, sometimes while at home. At age 16, one nontwin tried to understand their sibling's <i>mental health</i>. Relationship-based empathy in <i>romance</i> and <i>isolation</i> were experienced around ages 15 to 17 at school, while understanding of <i>conflict</i> happened during an age range of about 11 to 15 at school or home. Encounters with empathy</p>
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during a sibling's adjustment to a *new place* or *appearance* were reported during ages 14 to 15.

Table A7 Structural Description of Twin Sympathy

Twins around the ages of 16 to 17 felt their co-twin's emotions when their twin's *academic or sports achievements* failed to meet expectations, primarily while at home. One twin sympathized with his co-twin during their twin's experience of *punishment* around the age of 13. They went through the feelings of their co-twin while in the age range of 12 to 16 at home or school in their *mental or physical health* struggles. Twins experienced how their sibling felt during *relationship conflicts* when they were about 13 to 17, after witnessing it at school or hearing about it at home. One twin recalled being 9 or 10 when she felt her co-twin's pain when she had gone through a period of *adjustment*. Some twins also described their emotional imitations as extending into the present, one tracing the sentimental response back to infancy.

Table A8 Structural Description of Nontwin Sympathy

Nontwins reported feeling similar emotions to their sibling during their *academic failures* around mid-adolescence. They felt their sibling's pain in *punishment* during early childhood, "around age 8 or 9." Affective investment in their sibling's *physical or mental health* occurred primarily during mid-adolescence, with one case at age 11, in the woods, someone's home, or a health clinic. Feeling sympathy for a sibling after they experienced *isolation or conflict* in a *relationship* or a *romantic* breakup was most apparent around ages 13 or 14, in one sibling's

case when her sister “started to tell her things.” Nontwins confronted alike sentiments throughout their sibling’s periods of **adjustment** at ages 12 and 16.

Appendix B

Themes:

Empathy

Theme 1: Achievement

Subtheme 1: Sports

Subtheme 2: Academics

Subtheme 3: Comparisons

Theme 2: Punishment

Theme 3: Health

Subtheme 1: Physical

Subtheme 2: Mental

Theme 4: Relationships

Subtheme 1: Romantic

Subtheme 2: Isolation

Subtheme 3: Conflict

Theme 5: Adjustment

Subtheme 1: Appearance

Subtheme 2: New Places

Theme 6: General

Subtheme 1: Definition

Subtheme 2: Miscellaneous

Sympathy

Theme 1: Achievement

Subtheme 1: Sports

Subtheme 2: Academics

Subtheme 3: Comparisons

Theme 2: Punishment

Theme 3: Health

Subtheme 1: Sports

Subtheme 2: Academics

Subtheme 3: Comparisons

Theme 4: Relationships

Subtheme 1: Romantic

Subtheme 2: Isolation

Subtheme 3: Conflict

Theme 5: Adjustment

Theme 6: Miscellaneous

Subtheme 1: Definition

Subtheme 2: Miscellaneous

Table B1 Key to Qualitative Responses

1. Brackets ([]) at the *end* of a quotation notes context.

2. Number preceding demographics (#:) notes quotation number.
3. *Gender, Older/ Younger by 1-2/ 2-3 Years, Same-Sex/ Opposite-Sex Nontwin (Code) (Age)* notes nontwin demographics.
4. *Gender, Fraternal/ Identical/ Uncertain, Same-Sex/ Opposite-Sex Twin (Code) (Age)* notes twin demographics.

Empathy

Theme 1: Achievement

Subtheme 1: Sports

1: Female, Older by 2-3 Years, Same-Sex Nontwin (SD) (16):

My sister and I were involved in ballet for several years. I remember that every year we would audition for different roles in the recital. As an older sibling, I usually got more central roles because I had been dancing longer. However, my younger sister (**by barely 2 years**)^{1a} often got supporting roles and **I didn't understand³ why she, who had put as much time and effort into dance as I had at her age, wasn't getting leveled up². I imagined what that must feel like for her, always working to one goal but never obtaining it because there was always a class ahead of her.** I saw that she never enjoyed dance as much as I did later on^{4a}, and **I imagine she almost felt cheated for being alrighty younger.**¹ [No context provided]

^{1a}notes demographic separation: age

²takes sibling's side

³lack of experience breeds a lack of understanding

^{4a}understands sibling's context :long-term cause-effect

2: Female, Older by 1-2 Years, Same-sex Nontwin (SU) (16):

I experienced sympathy with one of my siblings **when they faced rejection in their sport. I understood how it feels to go through that** ^{1a} **and I realize how destroying it can be because of my own sport so I tried to give input^{5a} about knowing that you are good and skilled and that that rejection does not define you.** I also did my best to explain that **sometimes rejection can lead to success but it a different area and that maybe the thing you weren't accepted into would not fit the work you need.**¹ [This happened in my house and I was 15.]

^{1a}notes demographic separation: age

^{5a}experience breeds understanding/ input: coping with failure

3: Female, Identical Same-Sex Twin (TG) (17):

One time, [my twin] was not getting a breaststroke state cut, even though she was trying really hard. At the moment, **I was being really mean to her about it, but in retrospect later on that day, I tried to empathize with how she was feeling.**⁴ **In that state of mind, I was able to**

give a heartfelt apology. [17 years old]

⁶critical attitude put aside

Subtheme 2: Academics

4: *Male, Fraternal Same-Sex Twin (TB) (18):*

When my brother was **only a couple points away from National Merit**, I tried to put myself in his shoes **hoping that he'd feel better.**^{5a} [We were 17 at Popeyes]

^{11a}provides support without experience: coping with failure

5: *Female, Uncertain Zygosity Same-Sex Twin (TJ) (15):*

At my middle school graduation, my sister received an award for second place for her GPA in the **whole grade**. When I heard this **I was excited and happy for her.**⁶ [This happened at school, at our 8th grade graduation. We were 14 years old.]

^{11b}provides support without experience: accepting success

6: *Female, Younger by 2-3 Years, Opposite-Sex Nontwin (SJ) (18):*

My brother went to college in Washington DC for a semester and **hated it because his classmates were obnoxiously wealthy.**² He failed out of that school and **I felt awful for him, because he'd worked hard to get there.** [No context]

²takes sibling's side

7: *Male, Fraternal Same-Sex Twin (TN) (16):*

My twin has always been better than me at school,⁷ and better than most in fact. He usually gets a bunch of awards for being top in class **or something like that. I have never gotten an award like that academically, and I always wondered how he felt.** Most of the times he just shrugged it off and really didn't care. **I didn't really understand how he felt like that. He showed no excitement and I knew if I had gotten an academic award, I would have been pretty happy and excited.**³ [One specific time I could think of was in 7th grade and we were like 12 or 13 years old.]

⁷unit treatment shapes identity

³lack of experience breeds a lack of understanding

8: *Male, Fraternal Opposite-Sex Twin (TQ) (18):*

When my twin was **very stressed** about the ACT²¹ [18]

⁸anticipates sibling's emotions

9: *Female, Fraternal Same-Sex Twin (TR) (14):*

I felt empathy for them when they were **struggling with their grades.**^{5a} [13]

^{11a}provides support without experience: coping with failure

Subtheme 3: Comparisons

10: *Female, Fraternal Same-Sex Twin (TD) (14):*

My mom sometimes compares my twin to me, and **this comparison often upsets my sister**. I try to imagine how I would feel if someone examined my characteristics this way. [This has happened **recently**⁷, so fourteen years old.]

⁷unit treatment shapes identity

11: Male, Fraternal Same-Sex Twin (TN) (16):

Any time my brother performs less academically than me and **my parents compare him to me**. [Has happened a lot throughout the years]⁷

⁷unit treatment shapes identity

Theme 2: Punishment

12: Female, Younger by 1-2 Years, Opposite-Sex Nontwin (SV) (14):

There are times where my sibling is yelled at or get in trouble with our parents due to grades, **although he is trying, which leads him to being stressed**.^{11a} [I've started to see it happen in the middle of this semester.]

^{11a}provides support without experience: coping with failure

13: Female, Older by 2-3 Years, Opposite-Sex Nontwin (SL) (16):

My sibling was **not able to go on a trip that he was really excited to go on because he had school. It was a last minute realization so I felt really bad for him**.^{4b} [At home; it happened this year (15)]

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

14: Female, Older by 2-3 Years, Same-Sex Nontwin (SH) (17):

One time I felt empathetic for my sister was when she was failing a class. This was also around the time of the peak of football season and **it meant she would no longer be able to cheer at games because of the school's policy**.^{4b} I could tell it was really hurting her and **she felt embarrassed above everything and I tried to imagine what it felt like**. [This was around October of 2019.]

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

15: Female, Older by 1-2 Years, Opposite-Sex Nontwin (ST) (16): they got in trouble for a fight we got in and i felt bad bc i was apart of it too but **he was in trouble because he's a boy**^{1b} [15 or 14]

^{1b}notes demographic separation: gender

16: Male, Fraternal Opposite-Sex Twin (TA) (17):

Our mom **yelled** at [my twin] and sent them to "time out" in the bathroom. I understood that they were **frightened and upset**. [I was at my house in upstate Louisiana, and I was probably around 6.⁹]

⁸anticipates sibling's emotions

⁹recalls childhood event

17: Male Fraternal Opposite-Sex Twin (TF) (14):

once my twin got in in trouble and I imagined how my twin felt. [I was 12 and it happened at home]

Theme 3: Health

Subtheme 1: Physical

18: *Other, Fraternal Opposite-Sex Twin (TA) (17):*

[My twin] was in the hospital- it was a non- life threatening medical issue, but we didn't know that at the time.^{10a} I'd never had to go to a hospital before that point, and I was pretty freaked out by all the machines. **I tried to keep [my twin] calm by reading to him from a book I had, and he seemed to stop freaking out when I did that. I tried to put myself in his place, and I kinda just anticipated what I thought would keep him calm and content.**⁸ [This was in north LA, when we were both 8.⁹]

⁸anticipates sibling's emotions

⁹recalls childhood event

^{10a}health danger : sibling's

19: *Female Fraternal Opposite-Sex Twin (TO):*

I would say that the most recent time I felt empathy for my twin was when he became very sick and was unable to attend classes. He had been mildly sick for several months, but it gradually progressed until he was unable to function normally. **I would sit with him to make sure he was okay and I eventually had to take him to the emergency room.**^{10a} [19]

^{10a}health danger

20: *Male Fraternal Same-Sex Twin (TB) (18):*

One time in middle school he got a broken arm and **I felt bad for him because I've also broken bones.** [12, Middle School.]

^{5b}experience breeds understanding/ input: physical pain

21: *Female Uncertain Zygosity Same-Sex Twin (TJ) (15):*

My twin sister got her blood drawn and was feeling lightheaded. I was preparing to get my blood drawn when she suddenly fainted. I called the doctors for help and thought it was funny at first. Then, I imaged what it felt like if that happened to me so I felt bad. I started to cry and hoped it wouldn't happen to me.¹⁰ Looking back at the incident now, we both think it was funny. [at a health center/clinic; 15 years old]

¹⁰health danger

22: *Female, Fraternal Opposite-Sex Twin (TP) (14):* He once sprained his thumb and had to sit out for some of his basketball season.^{4b} I empathized with his **disappointment because I have done the same thing.**^{5d} [I was around 12 years old. He hurt it at a basketball game but I didn't find out till later.]

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

^{5c}experience breeds understanding/ input: psychological pain

23: *Male, Fraternal Opposite-Sex Twin (TP) (14):*

When my sister broke her arm **i felt really bad for her.** [My house, age 9]

Subtheme 2: Mental

24: *Male, Older by 1-2 Years, Opposite-Sex Nontwin (SC) (18):*

I am not very in tune with the empathetic world but I tried my hardest to understand what my sister was going through in **her severe depression.** While I'm not certain that I understood what she was feeling, **I believe that I had some comprehension of her mentality and rationale.**^{11c} [16]

^{11c}provides support without experience: coping with emotions

25: *Other, Fraternal Opposite-Sex Twin (TC) (16):*

I guess he was telling me about how **he felt a bit depressed sometimes** and **I tried to cheer him up.**^{11c} We don't really share empathetic moments. [14]

^{11c}provides support without experience: coping with emotions

26: *Female Fraternal Same-Sex Twin (TD) (14):*

Well my twin was being **super stressed out about school** and managing her home life with her academic life. I couldn't understand why she was so stressed so I tried to put myself in her shoes. And then I **realized that with all the factors contributing to her stress, that of course she would feel discouraged.**^{4b} I also realized that my thoughts about her being stressed over "nothing" was invalid and kinda selfish too.⁶ [14]

⁶critical attitude put aside

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

Theme 4: Relationships

Subtheme 1: Romantic

27: *Male, Older by 1-2 Years, Opposite-Sex Nontwin (SC) (18):*

I try to sympathize with my sister about **her desire for a meaningful relationship.** While I have had two and she hasn't had any^{5a}, **I believe that I achieved a similar sensation in the period between the two of these and try to advise her through my thoughts on the matter**³ [15-17]

^{5a}experience breeds understanding/ input: coping with failure

28: *Male Fraternal Same-sex Twin (TB) (18):* My sibling was trying to get a girlfriend, and **I tried to relate to him but couldn't because I'm asexual.**⁸ [High School, 9th grade.]

⁸lack of experience breeds a lack of understanding

29: *Female Fraternal Opposite-Sex Twin (TO)*: I felt sympathy for my brother **when he broke up with his long time girlfriend. Even though I knew the break up was for the best⁶, I knew he was sad about it. I tried to do various things that would help take his mind off of it.** [18]

⁶critical attitude put aside

Subtheme 2: Isolation

30: *Female, Younger by 2-3 Years, Same-Sex Nontwin (SD) (13)*:

When I was in elementary school my sister was having trouble maintaining a relationship with her friends in the same grade. **I never had any trouble with my friends because I was part of a small group whereas she was part of a larger group.** She came to talk to me about it. So I **tried to understand although I didn't identify with these problems myself.** [It happened at school when I was approximately 12 years old.]

^{11d}provides support without experience: coping with others

31: *Female, Younger by 1-2 Years, Opposite-Sex Nontwin (SS) (14)*:

They **didn't have a very strong social group at school** and I could empathize with **how hard that could be sometimes.**^{5b} [At school, I was 13.]

^{5b}experience breeds understanding: psychological pain

32: *Female Identical Same-Sex Twin (TG) (17)*:

One time, my twin wrote an argumentative paper where she wrote something along the lines of some Christians support Chick-fil-at and do not support gays and gays rights. This one girl in our class apparently got really mad at my twin and told her that her grandmother is Christian but doesn't hate gays so that was a false statement. My sister said she pointed out that she had said the word some so it was not inclusive of every Christian. My sister told me a few days later that the teacher asked if she wanted to read her paper aloud because it was really good. When my sister refused to because of the criticism she knew she would face from that one sentence, the teacher decided to read it anyway.² **I can only imagine what she was feeling because I tried to imagine that she must have been horrified because it was going to impact any form of friends at that school because the school was so small.**^{4b} As a result of that paper, her math partner abandoned her and most people refused to speak to her for the remainder of our time at that school.² [We were about 12 years old and in 6th grade. We were at a small kindergarten through 12th grade school where we only spent 5th and 6th grade before going to a different school.]

²takes sibling's side

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

33: *Female Fraternal Opposite-Sex Twin (TQ) (18)*: I have 2 siblings, a twin brother and a younger sister. My twin is the only boy so he's often alone in the house with 3 girls while my dad is at work.¹⁶ Once when we were little, he wanted someone to go outside and play frisbee with him. Neither me nor my sister wanted to. After pleading with us unsuccessfully for awhile, he

threw a mini tantrum and complained that he didn't have a little brother to play with. I **should have been annoyed with him (and I kind of was), but for some reason I mostly just felt like a jerk.**⁶ Later I looked out the window and saw him **throwing the frisbee by himself.** Watching him march gloomily over to pick it up, **I felt very guilty** and wondered how it would feel to be the **only little boy in the house.**^{4b}[My home. I was probably 11.]

^{1b}notes demographic separation: gender

⁶critical attitude put aside

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

Subtheme 3: Conflict

34: *Male, Older by 1-2 Years, Opposite-Sex Nontwin (SS) (16):*

At one point this year, my sister was having some trouble with her friends. **Some more people had come into her friend group who she wasn't comfortable around.** I could understand how this would feel, although I wasn't personally experiencing something like it.^{5d} [16]

^{11d}provides support without experience: coping with others

35: *Female, Younger by 1-2 Years, Same-Sex Nontwin (SK) (15):*

Well, **since I'm younger, some things are experienced by my sister before I can understand what she's going through,** which is why I try my best.¹ But there was a time when my sister got into a quarrel with some other girl (actually there were several instances but oop-) and stood up for herself² **and went IN on that girl. Like IN IN.** I was not present when that happened, but I was informed of the situation, and **I tried to collect a sense of how that would have played out the way it did,** such as: what was the girl doing? why is she messing with people? what happened exactly? etc.² [This happened at my old school, and I was maybe 10 or 11.]

^{1a}notes demographic separation: age

²takes sibling's side

36: *Female, Older by 1-2 Years, Same-sex Nontwin (SU) (16):*

I at one point tried to imagine how it felt when one of **my siblings was having trouble with their teammates for soccer.** I don't work with as much group effort in my sport as they do so **I tried to empathize by trying to encourage individual work and effort and acting as if the people weren't there.**^{11d} Knowing also that these girls weren't the nicest², I struggled to give input⁸ because I believed they wouldn't be good friends but **I understood that my sibling needed to get along with them to be able to work as a team.** [This conversation happened in my house and I was 15.]

²takes sibling's side

^{11d}provides support without experience: coping with others

³lack of experience breeds a lack of understanding

37: *Female Fraternal Same-Sex Twin (TE):*

My twin sister had an argument with one of **our best friends**. They **split up**. She was **really depressed**. They argued over something trivial. **I felt angry at first at my best friend**² but then I realized how **hurt my sister was**.⁶ I felt what it was like to have **your best friend end a friendship due to selfishness**.² **I didn't want my sister to be sad**. [12-13]

²takes sibling's side

⁶critical attitude put aside

Theme 5: Adjustment

Subtheme 1: Personal Appearance

38: *Female, Younger by 1-2 Years, Opposite-Sex Nontwin (SB) (15)*:

My brother decided to shave his head a few years ago for charity. He was very excited and eager to do it however i was hesitant.⁸ once he did it it was quite obvious that he was self conscious about the way he looked with no hair. **i still feel bad for him because every time we see a picture from that time period of his baldness, he cringes**.^{4b} [May of 2018]

^{4a}understands sibling's context: long-term cause-effect

⁸anticipates sibling's emotions

39: *Female Fraternal Same-Sex Twin (TD) (14)*: Well, **my mom does this thing where sometimes she tells us that we have to dress a certain way (rarely) or have similar hairstyles that she wants us to wear in order to "protect" our hair**.⁷ And sometimes that stresses out my twin, because she never really gets the hairstyles she wants. And at first, I didn't understand the annoyance that was gained by my twin,---like I thought she was just overreacting. **But then my mom told me I had to get the same hairstyle she wanted me too, and I realized how annoying and aggravating it was**.⁴ Even though ---personal appearances aren't that important. [14]

⁷unit treatment shapes identity

⁶critical attitude put aside

Subtheme 2: New Places

40: *Female, Younger by 2-3 Years, Opposite-Sex Nontwin (SJ) (18)*:

My mother decided to keep my brother in Louisiana rather than let him leave the state to go to a far-away college. **I've always been afraid that my mother will do this to me**,⁷ so I tried to understand what he was feeling. [I was 15 and my brother was 18. [I was 15 and my brother was 18.]

⁷unit treatment shapes identity

41: *Female, Older by 2-3 Years, Opposite-Sex Nontwin (SL) (16)*:

My sibling had to adjust to a new school.⁸ [At home; it happened this year (15)]

⁸anticipates sibling's emotions

Theme 6: General

Subtheme 1: Definition

42: *Female Fraternal Opposite-Sex Twin (TF) (14)*: When I'm upset or not feeling good he can sometimes tell without me having to say or do anything.⁸ [It still happens and it happens anywhere. But mostly in public.]

⁸ anticipates sibling's emotions

Subtheme 2: Miscellaneous

43: *Male, Older by 2-3 Years, Opposite-Sex Nontwin (SW) (15)*: She lost a tooth in the grass in the backyard and got really upset that she wouldn't get tooth fairy money. [9, our backyard]

Sympathy

Theme 1: Achievement

Subtheme 1: Sports:

44: *Male Fraternal Same-Sex Twin (TN) (16)*: Recently, my twin came back from this athletic event. Even though he didn't say anything, I could tell on his face that this event went horribly.⁸ He walked in very mad and annoyed. When I found out the specific reason why he was mad, I automatically got this feeling like it had happened to me.¹² Being an athlete myself, I knew that exact feeling of disappointment and frustration.^{5b} He knew he could have done so much better and I felt that same feeling in me when I thought of the times I was disappointing in my athletic performances.¹³ [It was about a week or two ago. We were both 16 years old.]

⁸ anticipates sibling's emotions

¹² individual failure becomes common failure

^{5b} experience breeds understanding: psychological pain

¹³ reliving experience

Subtheme 2: Academics

45: *Female, Older by 2-3 Years, Same-Sex Nontwin (SD) (16)*:

My younger sister is taking a class that I took in a previous year at school.^{1a} It was a very difficult class for me and since she slipped a grade, I imagine it's even harder for her. So far,

she has done well in the class, but she keeps getting B's on the tests. Because I see her often after school, **her stress about taking a test in the class is often reflected on to me. My own anxieties of the past come flooding back and I feel upset that she is still working through her own.**¹³ [15]

^{1a}notes demographic separation: age

¹³reliving experience

²³feels powerless in helping

46: *Female, Fraternal Opposite-Sex Twin (TL) (17)*: A time where I sympathized with my twin would be **when my brother wasn't accepted to one of his top colleges. It really discouraged him and crushed his heart and I felt the same way.**¹² I remember when he received the letter initially excited and happy to see his status. When he opened it, I could tell from the look on his face that something happened.⁸ **He was denied admission which really hurt everyone who was around at the time. I felt really bad for my brother and I did my best to comfort him.**^{11a}
[This happened at home about 2 weeks ago. We were 17 years old.]

⁸ anticipates sibling's emotions

¹²individual failure becomes common failure

^{11a}provides support without experience: coping with failure

47: *Female, Fraternal Opposite-Sex Twin (TQ) (18)*:

My twin is a smart guy who wants to get a degree in chemical engineering. My mother is proud of him **but she is always pressuring him to do better and study more and be more responsible, but I know he is actually a very responsible person in general.**² He's a chill guy, so **I never knew how much the excessive pestering² bothered him until one day when he cracked under the pressure and responded harshly to her. I worry that he'll eventually become weary of all this expectation and lose his energy.**^{4a} [My home. 17]

²takes sibling's side

^{4a}understands sibling's context: long-term cause-effect

48: *Female, Fraternal Opposite-Sex Twin (TP) (14)*:

He worked on a paper for a long time and it got deleted. Although I hadn't experienced that^{11a}, I could sympathize with his anger and frustration. [I was 13 and this happened at home]

^{11a}provides support without experience: coping with failure

Subtheme 3: Comparisons

49: *Female Fraternal Opposite-Sex Twin (TL) (17)*: A time where I empathize with my brother would be whenever people compare us. People **compare us in many ways**, physically, academically, and behavior wise (socially). **I am known to be the "smarter"⁷ twin out of the two of us and I can imagine the embarrassment my brother feels whenever we are compared which makes us both uncomfortable.** whenever our mother would show people **our report cards**¹¹ for example they would always question my brother **about trying to study**

harder in school and make better grades. It hurts me that people always comment about my brother's academic abilities and I wish that they can focus more on the fact that **me and my brother have different interests and that my brother has a harder time understanding school material.** [Can't really specify a date because It happens pretty often.]

⁷unit treatment shapes identity

Theme 2: Punishment

50: Female, Younger by 2-3 Years, Same-Sex Nontwin (SH) (14): Our dad **forced them to stay on the swim team** after months of saying that they hated it.² **I felt really bad and frustrated because I had gone through the same things as my sibling on multiple occasions.**¹³ [I was at home and probably around the age of 8 or 9.]

²takes sibling's side

¹³reliving experience

51: Female Fraternal Same-Sex Twin (TR) (14): **When my twin was struggling with their grades, I was very disappointed and upset**¹² **because if she didn't get her grades on track, there would be severe repercussions.**^{4b} I decided to put myself in her shoes, and it gave me much empathy about her situation. [13]

^{4b}understands sibling's context: how circumstances outside of immediate situation affect emotions

¹²individual failure becomes common failure

Theme 3: Health

Subtheme 1: Physical

52: Female, Younger by 1-2 Years, Opposite-Sex Nontwin (SC) (17): One time my brother and I got in a bad ATV accident and he had a giant gash in his leg. He had to be rushed to a hospital and I stayed at the camp we were staying in.¹⁰ **I imagined how much pain he was in and how scared he probably was**⁸ **and I cried for about 10 minutes worrying about him and imagining how he felt because there was no way to contact him.**¹⁴ [16 - middle of nowhere in the woods of Mississippi]

⁸anticipates sibling's emotions

¹⁰health danger: sibling

¹⁴emotional outburst

53: Female, Older by 2-3 Years, Opposite-Sex Nontwin (SM) (17):

The only time I can remember that can come kind of close was when **we were at the dentist and he had something bring done with his teeth? It may have been the numbing shots that cause his reaction, but he was crying hard. For some reason I started crying as well as a reaction to the crying, but I personally didn't feel anything really.** I have come to

realize that **I cry when others cry even though I don't feel what they are feeling**. Otherwise, I don't ever recall feeling the same emotion he has unless we both were going through the event. **Although this is the same case with people I interact with daily.** [I was about 11?]

¹⁴emotional outburst

54: *Female Uncertain Zygosity Same-sex Twin (TJ) (15):*

When my twin sprained her ankle, she had to go to the hospital. **At the time, no one knew it was a sprain and thought it was more serious than what it actually was.** I felt bad for her and was concerned if she would be okay or not.^{10a} **Then I started crying as she was taken to the hospital.**¹⁴ [She sprained it at school, but I cried at home. We were both 12.]

^{10a}health danger: sibling

¹⁴emotional outburst

55: *Female, Older by 1-2 Years, Opposite-Sex Nontwin (SA) (17):* **He experienced reaction and I felt the pain he was in,**^{11e} even though I haven't gone through the same exact thing. [17, we were at our house]

^{11e}provides support without experience: coping with physical pain

Subtheme 2: Mental

56: *Female, Older by 1-2 Years, Opposite-Sex Nontwin (SA) (17):* He told me **he was becoming extremely depressed** and was becoming **emotionless** because of it. I've been depressed before, but I always feel many emotions and can never describe myself as emotionless.³ I tried to understand what he went through to understand how he felt and the thought of it **made me cry**¹⁵ because **the only time I went through an experience that made me feel nothing, I was in such intense pain I wanted to die.**¹³ [I was 16, ere at our house.]

¹⁵feels powerless in helping

¹³lack of experience breeds a lack of understanding

¹³reliving experience

57: *Male Fraternal Opposite-Sex Twin (TA) (17):* [My twin] was telling me about their depression, and that on some days they can't move because they are so depressed. [I was 16 when they told me this.]

58: *Other, Fraternal Opposite-Sex Twin (TA) (17):* I felt empathy for [my twin] when he came out to me- I'm also queer, **so it was kind of like looking back in time and experiencing a lot of the same emotions.**¹³ I could imagine pretty clearly what he was going through, and I was really emotional about it for a long time. **I'm still very nervous and scared, and I check in on him to see how his mental health is faring.**^{5b} [We were 16, North LA again.]

¹³reliving experience

^{5b}experience breeds understanding: psychological pain

Theme 4: Relationships

Subtheme 1: Romantic

59: *Female, Younger by 1-2 Years, Opposite-Sex Nontwin (SC) (17)*: **When my brother broke up with his middle school girlfriend he was very upset because they had been dating for two years. When he told me, I got really sad that the relationship had come to an end even though I didn't like the girl that much^{4b} and I wasn't the one in the relationship¹² [13]**

¹²individual failure becomes common failure

^{4b}critical attitude put aside

60: *Female, Younger by 2-3 Years, Same-Sex Nontwin (SP) (14)*: Sometimes when my sister shares a story that I have not yet experienced^{1a} for example a **story involving a party or a boy I try and sympathize with her by trying to feel like she did without actually experiencing it.** [This happened when she started to tell me things so this year during the summer so I was 14]

^{1a}notes demographic separation: age

³lack of experience breeds a lack of understanding

Subtheme 2: Isolation

61: *Female, Younger by 2-3 Years, Same-sex Nontwin (SD) (13)*: This year for my sister's birthday we planned a surprise, **so I told her friends to say they couldn't do anything with her.** However, **she became upset** because no one could spend the day with her. **She cried a lot to me and confessed that she was disappointed.** I felt very bad for her and **almost told her about the surprise in her distress. When she was emotional, I shared her feelings of sadness and disappointment.**¹⁶ [This incident happened at home when I was approximately 13 years old.]

¹⁶feels responsible for sibling's emotions

62: *Female, Older by 1-2 Years, Opposite-Sex Nontwin (SG) (16)*: One time **my brother described how he had had a dream where he imagined himself alone on his birthday, and I felt sympathetic for him.** [Around 15.]

¹²individual failure becomes common failure

63: *Male Fraternal Opposite-Sex Twin (TQ) (18)*: When **my twin's best friend started leaving my twin out of things and got a new best friend** [15]

¹²individual failure becomes common failure

Subtheme 3: Conflict

64: *Female Identical Same-sex Twin (TG) (17)*: There was this "friend" that my twin had and **her friend choices are not always the best for her.**²⁵ This "friend" in particular she met when she was doing lifeguard training, when my twin failed her required tests twice and was fired, her friend became pretty aggressive and mean to her.² Her "friend" would text to my twin and say

these awful things to her. As I worked with her "friend" I realized how if she does not think she has power over others, then she gets really mean.² **I definitely sympathized with my twin over the texts that were sent to her and even later on some of that hate was directed to me.**^{19b} **She felt awful about herself because she had made another poor choice of a friend^{4b} and I felt awful for her because I eventually knew what it felt like and I felt awful that she had to experience that from someone she had believed to be a "friend".** At the beginning of all of the mean texts I just felt bad that it was only her and no one else had that because she was pretty popular with everyone else. [My twin was at home on her phone lying around on her bed and I was at work lifeguarding. We were 17.]

¹⁶feels responsible for sibling's emotions

²takes sibling's side

^{5b}experience breeds understanding: psychological pain

⁶critical attitude put aside

65: *Other, Fraternal Opposite-Sex Twin (TC) (16)*: He was just telling me about when he got frustrated when he was left with our cousin at home. They don't really get along, so stuff like that happens a lot. [a really long time]

66: *Female, Uncertain Zygosity Same-sex Twin (TJ) (15)*: During PE at school, my twin couldn't find her uniform clothes since somebody stole it. **She realized that it was one of our friends that stole her items. After knowing that, she was angry but also sad. My sister cried when the person that stole her clothes was caught by our teacher. I felt bad about what happened to my twin.**² **I felt angry and sad like she did.** [at middle school; 13 years old]

²takes sibling's side

Theme 5: Adjustment

67: *Male, Older by 1-2 Years, Opposite-Sex Nontwin (SS) (16)*: During the first few days that we moved to New Orleans, **my sister was feeling confused and sad. Although I didn't feel these emotions as strongly as her, I was able to sympathize with her.** [16]

68: *Female, Younger by 1-2 Years, Same-sex Nontwin (SU) (15)*: When my sister went out of town during the summer alone; **I would be very scared**^{10b} [12 maybe]

^{10b}health danger: sibling

69: *Female, Identical Same-Sex Twin (TM) (15)*: There are many times where something happened to my twin when I was not with her and **I felt her pain. I felt like it happened to me even though it didn't.**²¹ For example when we were younger and **it was the first time where we weren't in the same class and something happened and caused her to cry, and when I saw her crying I started crying.**^{24a} Things like that used to happen a lot when we were younger, but **it doesn't happen as much anymore.** [We were in at school in 3rd grade, so we were either 9 or 10]

⁸anticipates sibling's emotions

¹²individual failure becomes common failure

Theme 6: General

Subtheme 1: Miscellaneous

69: *Female, Fraternal Same-Sex Twin (TD) (14)*: N/A [N/A]

70: *Male, Fraternal Opposite-Sex Twin (TF) (14)*: I cant think of a moment right now. [No context]

71: *Male, Fraternal Same-Sex Twin (TN) (16)*: I think I have yet to encounter a scenario where both of us haven't personally gone through the same stuff. After all, people tend **to treat twins the same and equally**, so how would we not end up experiencing the same stuff.⁷ [No context]

⁷unit treatment shapes identity

75: *Male, Fraternal Opposite-Sex Twin (TP) (14)*: Its pretty much the same as above. I tried to imagine the pain she was in and felt bad.

Subtheme 2: Definition

72: *Male, Fraternal Opposite-Sex Twin (TF) (14)*: Yes sometimes **i can feel when he is feeling. Sometimes i just start crying for no reason because i can feel he is upset.**⁸ [This happens at school or just I'm public.]

⁸anticipates sibling's emotions

73: *Female, Identical Same-sex Twin (TG) (17)*: **As a baby, I would cry when [my twin] did, even if I didn't have a personal reason to do so. If it was [my twin] being ignored and she began to cry, I would begin to cry. Even now, I become upset if I feel that [my twin] is being treated unfairly.**¹⁵ [11 months old]

¹⁵feels responsible for sibling's emotions

74: *Female, Younger by 2-3 Years, Same-Sex Nontwin (SP) (14)*: When my sister gets sad about something I try to put myself in her shoes and imagine how she is feeling. **I get sad when she does because I can understand what she is feeling.**⁸ [This has happened a lot in my life but specifically when my sister was a junior in high school so I was 13/14]general

⁸anticipates sibling's emotions

Researcher Comments:

1. being an older sibling might enhance empathy because of previous experience
7. first compared to co-twin, then to everyone else, comparisons occur frequently and recently, refutes literature to some degree: parents encourage comparisons
9. event was likely intensely stressful if recalled from childhood
13. causes return of negative emotions

Appendix C

Quantitative Analysis**Individuation Construct**

RQ1. Are you and your sibling/ twin involved in the same activities outside of school (e.g. sports, clubs)?

Table C1				
<i>Cross Tabulation of Sibling Status and Amount of Shared Extracurriculars</i>				
	Yes, all or most of our activities are done together.	Yes, some of our activities are done together.	No, none of our activities are done together.	Total
Twin	6 (3.7582)	8 (8.592)	15 (16.6481)	29
Nontwin	1 (3.2407)	8 (7.407)	16 (14.3518)	25
Total	7	16	31	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(7) / 54 = 3.7582$$

$$(\text{lower-left})E = (25)(7) / 54 = 3.2407$$

$$(\text{upper-middle})E = (29)(16) / 54 = 8.592$$

$$(\text{lower-middle})E = (25)(16) / 54 = 7.407$$

$$(\text{upper-right}) E = (29)(31) / 54 = 16.6481$$

$$(\text{lower-right})E = (25)(31) / 54 = 14.3518$$

$$\begin{aligned}
 X^2 &= [(6 - 3.7592)^2 / 3.7592] + [(1 - 3.2407)^2 / 3.2407] + [(8 - 8.592)^2 / 8.592] + [(8 - 7.407)^2 / 7.407] \\
 &+ [(15 - 16.6484)^2 / 16.6481] + [(16 - 14.3518)^2 / 14.3518] \\
 &= \underline{3.3257} < 5.991
 \end{aligned}$$

p > 0.05 (not significant)

RQ2. Were you and your sibling/ twin dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?

Table C2				
<i>Cross Tabulation of Sibling Status and Frequency of Being Dressed Alike in Past</i>				
	Yes, always.	Yes, sometimes.	No, never.	Total
Twin	4 (4.296)	21 (16.6481)	4 (8.056)	29
Nontwin	4 (3.703)	10 (14.3518)	11 (6.944)	25
Total	8	31	15	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(8) / 54 = 4.296$$

$$(\text{lower-left})E = (25)(8) / 54 = 3.703$$

$$(\text{upper-middle})E = (29)(31) / 54 = 16.6481$$

$$(\text{lower-middle})E = (25)(31) / 54 = 14.3518$$

$$(\text{upper-right})E = (29)(15) / 54 = 8.056$$

$$(\text{lower-right})E = (25)(15) / 54 = 6.944$$

$$X^2 = [(4 - 4.296)^2 / 4.296] + [(21 - 16.6481)^2 / 16.6481] + [(4 - 8.056)^2 / 8.056] + [(4 - 3.703)^2 / 3.703] + [(10 - 14.3518)^2 / 14.3518] + [(11 - 6.944)^2 / 6.944]$$

$$= \underline{6.9217} > \underline{5.9917}$$

$p < 0.05$ (significant)

RQ3. Have there been times where you and your twin/ sibling have decided to dress alike without encouragement from family or friends?

Table C3				
<i>Cross Tabulation of Sibling Status and Choosing to Dress Alike</i>				
	Yes, always.	Yes, sometimes.	No, never.	Total

Twin	0 (0.537)	15 (14.5)	14 (13.962)	29
Non sibling/ twin	1 (0.463)	12 (12.5)	12 (12.037)	25
Total	1	27	26	54

$$\chi^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(1) / 54 = 0.537$$

$$(\text{lower-left})E = (25)(1) / 54 = 0.463$$

$$(\text{upper-middle})E = (29)(27) / 54 = 14.5$$

$$(\text{lower-middle})E = (25)(27) / 54 = 12.5$$

$$(\text{upper-right})E = (29)(26) / 54 = 13.962$$

$$(\text{lower-right})E = (25)(26) / 54 = 12.037$$

$$\begin{aligned} \chi^2 &= [(0 - 0.537)^2 / 0.537] + [(1 - 0.4629)^2 / 0.4629] + [(15 - 14.5)^2 / 14.5] + [(12 - 12.5)^2 / 12.5] \\ &+ [(14 - 13.962)^2 / 13.962] + [(12 - 12.037)^2 / 12.037] \\ &= \underline{1.1977 < 5.991} \end{aligned}$$

$p > 0.05$ (not significant)

RQ4. Do you and your sibling/ twin have the same friends?

Table C4				
<i>Cross Tabulation of Sibling Status and Having Same Friends</i>				
	Yes, all or most of our friends are the same.	Yes, some of our friends are the same.	No, all of our friends are different.	Total
Twin	9 (5.9074)	19 (16.6481)	1 (6.444)	29
Nontwin	2 (5.0925)	12 (14.3518)	11 (5.56)	25
Total	11	31	12	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(11) / 54 = 5.9074$$

$$(\text{lower-left})E = (25)(11) / 54 = 5.0925$$

$$(\text{upper-middle})E = (29)(31) / 54 = 16.6481$$

$$(\text{lower-middle})E = (25)(31) / 54 = 14.3518$$

$$(\text{upper-right}) E = (29)(12) / 54 = 6.444$$

$$(\text{lower-right})E = (25)(12) / 54 = 5.56$$

$$\begin{aligned} X^2 &= [(9 - 5.9074)^2 / 5.9074] + [(19 - 16.6481)^2 / 16.6481] + [(1 - 6.444)^2 / 6.444] + [(2 - 5.0925)^2 / 5.0925] \\ &+ [(12 - 14.3518)^2 / 14.3518] + [(11 - 5.56)^2 / 5.56] \\ &= \underline{14.1499} > 9.210 \end{aligned}$$

$p < 0.01$ (significant)

RQ5. Do you and your sibling/ twin share a room?

Table C5				
<i>Cross Tabulation of Sibling Status and Having Same Room</i>				
	Yes, currently.	No, but we used to.	No, we have never.	Total
Twin	10 (5.9074)	18 (17.722)	1 (5.3704)	29
Nontwin	1 (5.0925)	15 (15.278)	9 (4.629)	25
Total	11	33	10	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(11) / 54 = 5.9074$$

$$(\text{lower-left})E = (25)(11) / 54 = 5.0925$$

$$(\text{upper-middle})E = (29)(33) / 54 = 17.722$$

$$(\text{lower-middle})E = (25)(33) / 54 = 15.278$$

$$(\text{upper-right}) E = (29)(10) / 54 = 5.3704$$

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$$(\text{lower-right})E = (25)(10) / 54 = 4.629$$

$$\begin{aligned} X^2 &= [(10 - 5.9074)^2 / 5.9074] + [(1 - 5.0925)^2 / 5.0925] + [(18 - 17.722)^2 / 17.722] + [(15 - 15.278)^2 / 15.278] \\ &+ [(1 - 5.3704)^2 / 5.3704] + [(9 - 4.629)^2 / 4.629] \\ &= \underline{13.8159} > \underline{13.816} \end{aligned}$$

$p < 0.01$ (significant)

RQ6. Are you and your sibling/ twin compared by others (e.g. academically, socially)?

Table C6				
<i>Cross Tabulation of Sibling Status and Frequency of Being Compared</i>				
	Yes, always.	Yes, sometimes.	No, never.	
Twin	15 (10.2038)	13 (17.186)	1 (1.611)	29
Nontwin	4 (8.7962)	19 (14.814)	2 (1.389)	25
	19	32	3	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(19) / 54 = 10.2038$$

$$(\text{lower-left})E = (25)(19) / 54 = 8.7962$$

$$(\text{upper-middle})E = (29)(32) / 54 = 17.186$$

$$(\text{lower-middle})E = (25)(32) / 54 = 14.814$$

$$(\text{upper-right}) E = (29)(3) / 54 = 1.611$$

$$(\text{lower-right})E = (25)(3) / 54 = 1.389$$

$$\begin{aligned} X^2 &= [(15 - 10.2038)^2 / 10.2038] + [(4 - 8.7962)^2 / 8.7962] + [(13 - 17.186)^2 / 17.186] + [(19 - 14.814)^2 / 14.814] \\ &+ [(1 - 1.611)^2 / 1.611] + [(2 - 1.389)^2 / 1.389] \\ &= \underline{7.572} > \underline{5.991} \end{aligned}$$

$p < 0.05$ (significant)

Enmeshment Construct**RQ7. I feel I am too involved in the problems of my sibling/ twin.**

Table C7				
<i>Cross Tabulation of Sibling Status and Frequency of Sibling Problem Involvement</i>				
	Yes, always.	Yes, sometimes.	No, never.	Total
Twin	3 (1.611)	11 (11.8148)	15 (15.574)	29
Nontwin	0 (1.389)	11 (10.1852)	14 (13.4259)	25
Total	3	22	29	54

$$\chi^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(3) / 54 = 1.611$$

$$(\text{lower-left})E = (25)(3) / 54 = 1.389$$

$$(\text{upper-middle})E = (29)(22) / 54 = 11.8148$$

$$(\text{lower-middle})E = (25)(22) / 54 = 10.1852$$

$$(\text{upper-right})E = (29)(29) / 54 = 15.574$$

$$(\text{lower-right})E = (25)(29) / 54 = 13.4259$$

$$\begin{aligned} \chi^2 &= (3 - 1.611)^2 / 1.611 + [(0 - 1.389)^2 / 1.389] + [(11 - 11.8148)^2 / 11.8148] + [(11 - 10.1852)^2 / 10.1852] \\ &+ [(15 - 15.574)^2 / 15.574] + [(14 - 13.4259)^2 / 13.4259] \\ &= \underline{2.7533} < 5.991 \end{aligned}$$

p > 0.05 (not significant)

RQ8. I feel I cannot separate emotionally from my sibling/ twin.

Table C8	
<i>Cross Tabulation of Sibling Status and Frequency of Sibling Emotional Intertwinement</i>	

	Yes, always.	Yes, sometimes.	No, never.	Total
Twin	4 (3.7592)	11 (9.67)	14 (15.574)	29
Nontwin	3 (3.2407)	7 (8.33)	15 (13.4259)	25
Total	7	18	29	54

$$\chi^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(7) / 54 = 3.7592$$

$$(\text{lower-left})E = (25)(7) / 54 = 3.2407$$

$$(\text{upper-middle})E = (29)(18) / 54 = 9.67$$

$$(\text{lower-middle})E = (25)(18) / 54 = 8.33$$

$$(\text{upper-right})E = (29)(29) / 54 = 15.574$$

$$(\text{lower-right})E = (25)(29) / 54 = 13.4259$$

$$\begin{aligned} \chi^2 &= [(4 - 3.7592)^2 / 3.7592] + [(3 - 3.2407)^2 / 3.2407] + [(11 - 9.67)^2 / 9.67] + [(7 - 8.33)^2 / 8.33] \\ &+ [(14 - 15.574)^2 / 15.574] + [(15 - 13.4259)^2 / 13.4259] \\ &= \underline{0.7742} < 5.991 \end{aligned}$$

$p > 0.05$ (not significant)

RQ9. I get emotional when I listen to the problems of my sibling/ twin.

Table C9				
<i>Cross Tabulation of Sibling Status and Frequency of Feeling Emotional</i>				
	Yes, always.	Yes, sometimes.	No, never.	Total
Twin	2 (2.6851)	17 (15.038)	10 (11.278)	29
Nontwin	3 (2.3149)	11 (12.962)	11 (9.722)	25
Total	5	28	21	54

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(5) / 54 = 2.6851$$

$$(\text{lower-left})E = (25)(5) / 54 = 2.3149$$

$$(\text{upper-middle})E = (29)(28) / 54 = 15.038$$

$$(\text{lower-middle})E = (25)(28) / 54 = 12.962$$

$$(\text{upper-right})E = (29)(21) / 54 = 11.278$$

$$(\text{lower-right})E = (25)(21) / 54 = 9.722$$

$$[(2 - 2.6851)^2 / 2.6851] + [(3 - 2.3149)^2 / 2.3149] + [(17 - 15.038)^2 / 15.038] + [(11 - 12.962)^2 / 12.962] + [(10 - 11.278)^2 / 11.278] + [(11 - 9.722)^2 / 9.722]$$

$$= \underline{1.2439} < \underline{5.991}$$

$p > 0.05$ (not significant)

RQ10. I feel I need to fix my sibling's/ twin's problems.

Table C10					
<i>Cross Tabulation of Sibling Status and Frequency of Sibling Needing to Fix</i>					
	Yes, always.	Yes, sometimes.	No, never.	Total	
Twin	3 (3.22)	20 (18.259)	6 (7.519)	29	
Nontwin	3 (2.78)	14 (15.741)	8 (6.481)	25	
Total	6	34	14	54	

$$X^2 = \sum (O - E)^2 / E$$

$$(\text{upper-left})E = (29)(6) / 54 = 3.22$$

$$(\text{lower-left})E = (25)(6) / 54 = 2.78$$

$$(\text{upper-middle})E = (29)(34) / 54 = 18.259$$

$$(\text{lower-middle})E = (25)(34) / 54 = 15.741$$

$$(\text{upper-right})E = (29)(14) / 54 = 7.519$$

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$$(\text{lower-right})E = (25)(14) / 54 = 6.481$$

$$\begin{aligned} & [(3 - 3.22)^2 / 3.22] + [(3 - 2.78)^2 / 2.78] + [(20 - 18.259)^2 / 18.259] + [(14 - 15.741)^2 / 15.741] + \\ & [(6 - 7.519)^2 / 7.519] + [(8 - 6.481)^2 / 6.481] \\ & = \underline{1.0512 < 5.991} \end{aligned}$$

$p > 0.05$ (not significant)

Retesting for Significance with 2 * 2 Contingency Tables

RQ1. Are you and your sibling/ twin involved in the same activities outside of school (e.g. sports, clubs)?

Table C11			
<i>Cross Tabulation of Sibling Status and Shared Extracurriculars</i>			
	Yes	No	Total
Twin	14	15	29
Nontwin	9	16	25
Total	23	31	54

McNemar's Test:

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$\begin{aligned} & 54[(14 * 16) - (15 * 9)]^2 / (25 * 31 * 29 * 25) \\ & = \underline{0.8275 < 5.991} \end{aligned}$$

$p > 0.05$ (not significant)

RQ2. Have there been times where you and your sibling/ twin have decided to dress alike without encouragement from family or friends?

Table C12				
<i>Cross Tabulation of Sibling Status and Choosing to Dress Alike</i>				
	Yes	No	Total	
Twin	15	14	29	
Nontwin	13	12	25	
Total	28	26	54	

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$54[(15 * 12) - (14 * 13)]^2 / (28 * 26 * 29 * 25)$$

$$= \underline{0.000409} < 5.991$$

p > 0.05 (not significant)

RQ7. I feel I am too involved in the problems of my sibling/ twin.

Table C13			
<i>Cross Tabulation of Sibling Status and Twin Problem Involvement</i>			
	Yes	No	Total
Twin	14	15	29
Nontwin	11	14	25
Total	25	29	54

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$54[(14 * 14) - (11 * 15)]^2 / (25 * 25 * 29 * 29)$$

$$= \underline{0.0987} < 5.991$$

p > 0.05 (not significant)

RQ8. I feel I cannot separate emotionally from my sibling/ twin.

Table C14			
<i>Cross Tabulation of Sibling Status and Twin Emotional Intertwinement</i>			
	Yes	No	Total
Twin	15	14	29
Nontwin	10	15	25
Total	25	29	54

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$54[(15 * 15) - (14 * 10)]^2 / (25 * 25 * 29 * 29)$$

$$= \underline{0.7423 < 5.991}$$

p > 0.05 (not significant)

RQ9. I get emotional when I listen to the problems of my sibling/ twin.

Table C15			
<i>Cross Tabulation of Sibling Status and Feeling Emotional</i>			
	Yes	No	Total
Twin	19	10	29
Nontwin	14	11	25
Total	33	21	54

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$54[(14 * 10) - (19 * 11)]^2 / (33 * 21 * 29 * 25)$$

$$= \underline{0.5117 < 5.991}$$

$p > 0.05$ (not significant)

Opposite-Sex vs. Same-Sex Twins

RQ11. Are you and your twin involved in the same activities outside of school (e.g. sports, clubs)?

Table C16			
<i>Cross Tabulation of Twin Sex Combination and Shared Extracurriculars</i>			
	Yes	No	Total
Opposite-Sex Twin	3	8	11
Same-Sex Twin	11	7	18
Total	14	15	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(7 * 3) - (11 * 8)]^2 / (14 * 15 * 18 * 11)$$

$$= \underline{3.131 < 3.841}$$

$p > 0.05$ (not significant)

RQ12. Were you and your twin dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?

Table C17			
<i>Cross Tabulation of Twin Sex Combination and Being Dressed Alike in Past</i>			
	Yes	No	Total
Opposite-Sex Twin	9	2	11
Same-Sex Twin	16	2	18

Total	25	4	29
-------	----	---	----

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(16 * 2) - (9 * 2)]^2 / (25 * 11 * 18 * 4)$$

$$= \underline{0.2877 < 3.841}$$

p > 0.05 (not significant)

RQ13. Have there been times where you and your twin have decided to dress alike without encouragement from family or friends?

Table C18			
<i>Cross Tabulation of Twin Sex Combination and Choosing to Dress Alike</i>			
	Yes	No	Total
Opposite-Sex Twin	5	6	11
Same-Sex Twin	10	8	18
Total	15	14	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(5 * 8) - (10 * 6)]^2 / (15 * 11 * 18 * 14)$$

$$= \underline{0.279 < 3.841}$$

p > 0.05 (not significant)

RQ14. Do you and your twin have the same friends?

Table C19

<i>Cross Tabulation of Twin Sex Combination and Having Same Friends</i>			
	Yes	No	Total
Opposite-Sex Twin	11	0	11
Same-Sex Twin	17	1	18
Total	28	1	29

$$P = [(a + b)!(c + d)!(a + c)!(b + d)!] / N!a!b!c!d!$$

$$P = [(0 + 11)!(17 + 1)!(0 + 17)!(11 + 1)!] / 29!0!1!11!9!17! \\ = 1$$

$p > 0.05$ (not significant)

RQ15. Do you and your twin share a room?

Table C20			
<i>Cross Tabulation of Twin Sex Combination and Having Same Room</i>			
	Yes	No	Total
Opposite-Sex Twin	0	11	11
Same-Sex Twin	10	8	18
Total	10	19	29

$$P = [(a + b)!(c + d)!(a + c)!(b + d)!] / N!a!b!c!d!$$

$$P = [(0 + 11)!(10 + 8)!(0 + 8)!(10 + 11)!] / 29!11!0!10!8! \\ = 0.0035$$

$p < 0.01$ (significant)

RQ16. Are you and your twin compared by others (e.g. academically, socially)?

Table C21			
<i>Cross Tabulation of Twin Sex Combination and Being Compared</i>			
	Yes	No	Total
Opposite-Sex Twin	11	0	11
Same-Sex Twin	17	1	18
Total	28	1	29

$$P = [(a + b)!(c + d)!(a + c)!(b + d)!] / N!a!b!c!d!$$

$$P = [(0 + 11)!(1 + 17)!(11 + 1)!(17 + 0)!] / 29!11!17!1!0!$$

$$= \underline{1}$$

$p > 0.05$ (not significant)

RQ17. I feel I am too involved in the problems of my twin.

Table C22			
<i>Cross Tabulation of Twin Sex Combination and Twin Problem Involvement</i>			
	Yes	No	Total
Opposite-Sex Twin	4	7	11
Same-Sex Twin	10	8	18
Total	14	15	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(4 * 8) - (7 * 10)]^2 / (14 * 15 * 18 * 11)$$

$$= \underline{1.007 < 3.841}$$

$p > 0.05$ (not significant)

RQ18. I feel I cannot separate emotionally from my twin.

Table C23			
<i>Cross Tabulation of Twin Sex Combination and Twin Emotional Intertwinement</i>			
	Yes	No	Total
Opposite-Sex Twin	4	7	11
Same-Sex Twin	11	7	18
Total	15	14	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(4 * 7) - (7 * 11)]^2 / (14 * 15 * 18 * 11) \\ = \underline{1.675 < 3.841}$$

p > 0.05 (not significant)

RQ19. I get emotional when I listen to the problems of my twin.

Table C24			
<i>Cross Tabulation of Twin Sex Combination and Feeling Emotional</i>			
	Yes	No	Total
Opposite-Sex Twin	8	3	11
Same-Sex Twin	11	7	18
Total	15	14	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

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$$29[(8 * 7) - (3 * 11)]^2 / (14 * 15 * 18 * 11) \\ = \underline{0.4078 < 3.841}$$

$p > 0.05$ (not significant)

RQ20. I feel I need to fix my twin's problems.

Table C25			
<i>Cross Tabulation of Twin Sex Combination and Twin Needing to Fix</i>			
	Yes	No	Total
Opposite-Sex Twin	10	1	11
Same-Sex Twin	13	5	18
Total	23	6	29

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$29[(10 * 5) - (13 * 1)]^2 / (23 * 6 * 18 * 11) \\ = \underline{1.453 < 3.841}$$

$p > 0.05$ (not significant)

Same-Sex vs. Opposite Sex Nontwins

RQ21. Are you and your sibling involved in the same activities outside of school (e.g. sports, clubs)?

Table C26			
<i>Cross Tabulation of Nontwin Sex Combination and Shared Extracurriculars</i>			
	Yes	No	Total

Opposite-Sex Nontwin	3	12	15
Same-Sex Nontwin	6	4	10
Total	9	16	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(12 * 6) - (4 * 3)]^2 / (15 * 10 * 16 * 9)$$

$$= \underline{4.167} > 3.814$$

$p < 0.05$ (significant)

RQ22. Were you and your sibling dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?

Table C27			
<i>Cross Tabulation of Nontwin Sex Combination and Being Dressed Alike in Past</i>			
	Yes	No	Total
Opposite-Sex Nontwin	6	9	15
Same-Sex Nontwin	8	2	10
Total	14	11	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(2 * 6) - (8 * 9)]^2 / (15 * 10 * 11 * 14)$$

$$= \underline{0.1558} > 3.814$$

$p > 0.05$ (not significant)

RQ23. Have there been times where you and your sibling have decided to dress alike without encouragement from family or friends?

Table C28			
<i>Cross Tabulation of Nontwin Sex Combination and Choosing to Dress Alike</i>			
	Yes	No	Total
Opposite-Sex Nontwin	7	8	15
Same-Sex Nontwin	6	4	10
Total	13	12	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(6 * 8) - (7 * 4)]^2 / (13 * 12 * 15 * 10)$$

$$= \underline{0.43} < 3.841$$

$p > 0.05$ (significant)

RQ24. Do you and your sibling have the same friends?

Table C29			
<i>Cross Tabulation of Nontwin Sex Combination and Having Same Friends</i>			
	Yes	No	Total
Opposite-Sex Nontwin	9	6	15
Same-Sex Nontwin	5	5	10
Total	14	11	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(9 * 5) - (6 * 5)]^2 / (15 * 10 * 11 * 14)$$

156

$$= 0.2435 > 3.814$$

$p > 0.05$ (not significant)

RQ25. Do you and your sibling share a room?

Table C30			
<i>Cross Tabulation of Nontwin Sex Combination and Having Same Room</i>			
	Yes	No	Total
Opposite-Sex Nontwin	0	15	15
Same-Sex Nontwin	1	9	10
Total	1	24	25

$$P = [(a + b)!(c + d)!(a + c)!(b + d)!] / N!a!b!c!d!$$

$$P = [(0 + 15)!(1 + 9)!(0 + 9)!(15 + 1)!] / 25!0!15!1!9!$$

$$= 0.4$$

$p > 0.05$ (not significant)

RQ26. Are you and your sibling compared by others (e.g. academically, socially)?

Table C31			
<i>Cross Tabulation of Nontwin Sex Combination and Being Compared</i>			
	Yes	No	Total
Opposite-Sex Nontwin	14	1	15
Same-Sex Nontwin	9	1	10

Total	23	2	25
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$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(9 * 1) - (14 * 1)]^2 / (23 * 2 * 10 * 15)$$

$$= \underline{0.0906} < 3.841$$

p > 0.05 (not significant)

RQ27. I feel I am too involved in the problems of my sibling.

Table C32			
<i>Cross Tabulation of Nontwin Sex Combination and Problem Involvement</i>			
	Yes	No	Total
Opposite-Sex Nontwin	6	9	15
Same-Sex Nontwin	5	5	10
Total	11	14	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(6 * 5) - (9 * 5)]^2 / (11 * 14 * 10 * 15)$$

$$= \underline{0.24356} < 3.841$$

p > 0.05 (not significant)

RQ26. I feel I cannot separate emotionally from my sibling.

Table C33			
<i>Cross Tabulation of Nontwin Sex Combination and Twin Emotional Intertwinement</i>			
	Yes	No	Total

Opposite-Sex Nontwin	7	8	15
Same-Sex Nontwin	3	7	10
Total	10	15	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(8 * 3) - (7 * 7)]^2 / (10 * 15 * 10 * 15)$$

$$= \underline{0.24356} < 3.841$$

p > 0.05 (not significant)

RQ27. I get emotional when I listen to the problems of my sibling.

Table C34			
<i>Cross Tabulation of Nontwin Sex Combination and Feeling Emotional</i>			
	Yes	No	Total
Opposite-Sex Nontwin	8	7	15
Same-Sex Nontwin	6	4	10
Total	14	11	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(8 * 4) - (7 * 6)]^2 / (14 * 11 * 10 * 15)$$

$$= \underline{0.1082} < 3.841$$

p > 0.05 (not significant)

RQ28. I feel I need to fix my sibling's problems.

Table C35			
<i>Cross Tabulation of Nontwin Sex Combination and Nontwin Needing to Fix</i>			
	Yes	No	Total
Opposite-Sex Nontwin	9	6	15
Same-Sex Nontwin	8	2	10
Total	17	8	25

$$\chi^2 = n(ad - bc)^2 / (a + c)(b + d)(a + b)(c + d)$$

$$25[(8 * 6) - (9 * 2)]^2 / (17 * 8 * 10 * 15)$$

$$= \underline{1.103 < 3.841}$$

p > 0.05 (not significant)

Odds Ratios for Significant Findings: Twin vs. Nontwin

RQ5. Do you and your sibling/ twin share a room?

Table C36		
<i>Relative Frequency of Sibling Status and Having Same Room</i>		
	Twin (T)	Nontwin (NT)
Yes, currently. (YC)	10 / 29 (0.3448)	1 / 25 (0.04)
No, but we used to. (NU)	18 / 29 (0.621)	15 / 25 (0.6)
No, we have never. (NN)	1 / 29 (0.0345)	9 / 25 (0.36)
Total	29 / 29 (1.0)	25 / 25 (1.0)+

$$OR = p / (1 - p)$$

$$O_{T/YC} = (0.3448 / 0.6552) = 0.526251$$

160

$$O_{NT/YC} = (0.04 / 0.96) = 0.0417$$

$$0.526251 / 0.0417 = \underline{12.62 \text{ times}} (O_T / O_{NT})$$

Twins are over 12.6 times more likely than nontwins to share a room in adolescence.

$$O_{T/NU} = (0.621 / 0.379) = 1.639$$

$$O_{NT/NU} = (0.6 / 0.4) = 1.5$$

$$1.639 / 1.5 = \underline{1.09 \text{ times}} (O_T / O_{NT})$$

$$O_{T/NN} = (0.0345 / 0.9655) = 0.03573$$

$$O_{NT/NN} = (0.36 / 0.64) = 0.5625$$

$$0.5625 / 0.03573 = \underline{15.74 \text{ times}} (O_{NT} / O_T)$$

Nontwins are over 15.7 times more likely than twins to have never shared a room.

RQ2. Were you and your sibling/ twin dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?

Table C37		
<i>Relative Frequency of Sibling Status and Being Dressed Alike</i>		
	Twin (T)	Nontwin (NT)
Yes, always. (YA)	4 / 29 (0.1379)	4 / 25 (0.16)
Yes, sometimes. (YS)	21 / 29 (0.7241)	10 / 25 (0.4)
No, never. (NN)	4 / 29 (0.1379)	11 / 25 (0.44)
Total	29 / 29 (1.0)	25 / 25 (1.0)

$$OR = p / (1 - p)$$

$$O_{T/YA} = (0.1379 / 0.8621) = 0.15996$$

$$O_{NT/YA} = (0.16 / 0.84) = 0.190477$$

$$0.190477 / 0.15996 = \underline{1.19 \text{ times}} (O_{NT} / O_T)$$

$$O_{T/YS} = (0.7241 / 0.2759) = 2.6245$$

$$O_{NT/YS} = (0.4 / 0.6) = 0.67$$

$$2.6245 / 0.67 = \underline{3.92 \text{ times}} (O_T / O_{NT})$$

Twins are over 3.9 times more likely than nontwins to have sometimes been dressed alike during some period of their life.

$$O_{T/NN} = (0.1379 / 0.8621) = 0.15996$$

$$O_{NT/NN} = (0.44 / 0.56) = 0.78571$$

$$0.78578 / 0.15996 = \underline{4.91 \text{ times}} (O_{NT} / O_T)$$

Nontwins are over 4.9 times more likely than twins to have never been dressed alike during some period of their life.

RQ4. Do you and your sibling/ twin have the same friends?

Table C38		
<i>Relative Frequency of Sibling Status and Having Same Friends</i>		
	Twin (T)	Nontwin (NT)
Yes, all or most of our friends are the same. (YA)	9 / 29 (0.3103)	2 / 25 (0.08)
Yes, some of our friends are the same. (YS)	19 / 29 (0.6552)	12 / 25 (0.48)
No, all of our friends are different. (NN)	1 / 29 (0.03448)	11 / 25 (0.44)
Total	29 / 29 (1.0)	25 / 25 (1.0)

$$OR = p / (1 - p)$$

162

$$O_{T/YA} = (0.3103 / 0.6897) = 0.4499$$

$$O_{NT/YA} = (0.08 / 0.92) = 0.08696$$

$$0.4499 / 0.08696 = \underline{5.17 \text{ times}} (O_T / O_{NT})$$

Twins are over 5.1 times more likely than nontwins to share all or most of their friends.

$$O_{T/YS} = (0.6552 / 0.3448) = 1.9$$

$$O_{NT/YS} = (0.48 / 0.52) = 0.923$$

$$1.9 / 0.923 = \underline{2.058 \text{ times}} (O_T / O_{NT})$$

Twins are over 2 times more likely than nontwins to share some of their friends.

$$O_{T/NN} = (0.03448 / 0.6552) = 0.03571$$

$$O_{NT/NN} = (0.44 / 0.56) = 0.78571$$

$$0.78578 / 0.03571 = \underline{22.0 \text{ times}} (O_{NT} / O_T)$$

Nontwins are over 22 times more likely than twins to share none of their friends.

RQ26. Are you and your sibling/ twin compared by others (e.g. academically, socially)?

Table C39		
<i>Cross Tabulation of Sibling Status and Being Compared</i>		
	Twin (T)	Nontwin (NT)
Yes, always. (YA)	15 / 29 (0.5172)	4 / 25 (0.16)
Yes, sometimes. (YS)	13 / 29 (0.4483)	19 / 25 (0.76)
No, never.	1 / 29 (0.03448)	2 / 25 (0.08)
Total	29 / 29 (1.0)	25 / 25 (1.0)

$$OR = p / (1 - p)$$

$$O_{T/YA} = (0.5172 / 0.4828) = 1.0713$$

163

$$O_{NT/YA} = (0.16 / 0.84) = 0.1905$$

$$1.0713 / 0.1905 = \underline{5.63 \text{ times}} (O_T / O_{NT})$$

Twins are over 5.6 times more likely than nontwins to always be compared to each other.

$$O_{T/YS} = (0.4483 / 0.55172) = 0.8125$$

$$O_{NT/YS} = (0.76 / 0.24) = 3.167$$

$$3.167 / 0.8125 = \underline{3.898 \text{ times}} (O_{NT} / O_T)$$

Nontwins are over 3.8 times more likely than twins to sometimes be compared to each other.

$$O_{T/NN} = (0.03448 / 0.9655) = 0.03571$$

$$O_{NT/NN} = (0.08 / 0.92) = 0.08696$$

$$0.08696 / 0.03571 = \underline{2.435 \text{ times}} (O_{NT} / O_T)$$

Nontwins are over 2.4 times more likely than twins to never be compared to each other.

Odds Ratios for Significant Findings: Opposite-Sex vs. Same-Sex Twins

RQ14. Do you and your twin share a room?

Table C40 <i>Relative Frequency of Twin Sex Combination and Having Same Room</i>		
	Opposite-Sex Twin (OT)	Same-Sex Twin (ST)
Yes (Y)	0.5* / 12 (0.0417)	10.5 / 19 (0.525)
No (N)	11.5 / 12 (0.9583)	8.5 / 19 (0.447)
Total	12 / 12 (1.0)	19 / 19 (1.0)

*Haldane Ascombe Correction: cell value + 0.5

$$OR = (a * d) / (b * c)$$

$$OR = (10.5 * 11.5) / (0.5 * 8.5) = \underline{28.4 \text{ times}} (O_{ST} / O_{NT})$$

Same-sex twins are over 28.4 times more likely than opposite-sex twins to share a room in adolescence.

Odds Ratios for Significant Findings: Opposite-Sex vs. Same-Sex Nontwins

RQ21. Are you and your sibling involved in the same activities outside of school (e.g. sports, clubs)?

Table C41		
<i>Relative Frequency of Twin Sex Combination and Shared Extracurriculars</i>		
	Opposite-Sex Nontwin (OS)	Same-Sex Twin (SS)
Yes (Y)	3 / 12 (0.2)	6 / 10 (0.6)
No (N)	12 / 12 (0.8)	4 / 10 (0.4)
Total	15 / 15 (1.0)	10 / 10 (1.0)

$$OR = (a * d) / (b * c)$$

$$OR = (12 * 6) / (3 * 4) = \underline{6 \text{ times}} (O_{ss}/O_{os})$$

Same-sex nontwins are 6 times more likely than opposite-sex nontwins to be involved in the same activities outside of school.

RQ22. Were you and your sibling dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?

Table C42		
<i>Relative Frequency of Twin Sex Combination and Being Dressed Alike in Past</i>		
	Opposite-Sex Nontwin (OS)	Same-Sex Twin (SS)

Yes (Y)	6 / 15 (0.4)	8 / 10 (0.8)
No (N)	9 / 15 (0.6)	2 / 10 (0.2)
Total	15 / 15 (1.0)	10 / 10

$$OR = (a * d) / (b * c)$$

$$OR = (6 * 2) / (9 * 8) = \underline{6 \text{ times}} (O_{ss} / O_{os})$$

Same-sex nontwins are 6 times more likely than opposite-sex nontwins to have been dressed alike during some period of their life.

Associations Between Significant Items and Frequency of Comparisons

Table C43				
Cross Tabulation of Twins Having Same Friends and Being Compared				
	Do you and your twin have the same friends?			
Are you and your twin compared by others (e.g. academically, socially)?		Yes	No	Total
	Yes	27 / 29 (0.931)	1 / 29 (0.0345)	28 / 29 (0.966)
	No	1 / 29 (0.0345)	0 / 29 (0.0000)	1 / 29 (0.0345)
	Total	28 / 29 (1.0)	1 / 29 (0.0345)	29 / 29 (1.0)

Table C44				
Cross Tabulation of Twins Being Dressed Alike in Past and Being Compared				
	Were you and your twin dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?			
Are you and your twin compared by others (e.g.		Yes	No	Total
	Yes	24 / 29 (0.828)	4 / 29 (0.138)	28 / 29 (0.966)

academically, socially)?	No	1 / 29 (0.0345)	0 / 29 (0.00)	1 / 29 (0.0345)
	Total	25 / 29 (0.862)	4 / 29 (0.138)	29 / 29 (1.0)

Table C45

Cross Tabulation of Twins Having Same Room and Being Compared

Are you and your twin compared by others (e.g. academically, socially)?	Do you and your twin share a room?			
		Yes	No	
	Yes	10 / 29 (0.345)	18 / 29 (0.621)	28 / 29 (0.966)
	No	1 / 29 (0.0345)	0 / 29 (0.0)	1 / 29 (0.0345)
	Total	11 / 29 (0.379)	18 / 29 (0.621)	29 / 29 (1.0)

Table C46

Cross Tabulation of Nontwins Being Dressed Alike in Past and Being Compared

	Were you and your sibling dressed alike (i.e. similar/ identical clothing) during any period of your life (e.g. infancy, childhood)?			
Are you and your sibling compared by others (e.g. academically, socially)?		Yes	No	Total
	Yes	13 / 25 (0.52)	10 / 25 (0.40)	23 / 25 (0.92)
	No	1 / 25 (0.04)	1 / 25 (0.04)	2 / 25 (0.08)
	Total	14 / 25 (0.56)	11 / 25 (0.44)	25 / 25 (1.0)

Table C47

Cross Tabulation of Nontwins Having Same Room and Being Compared

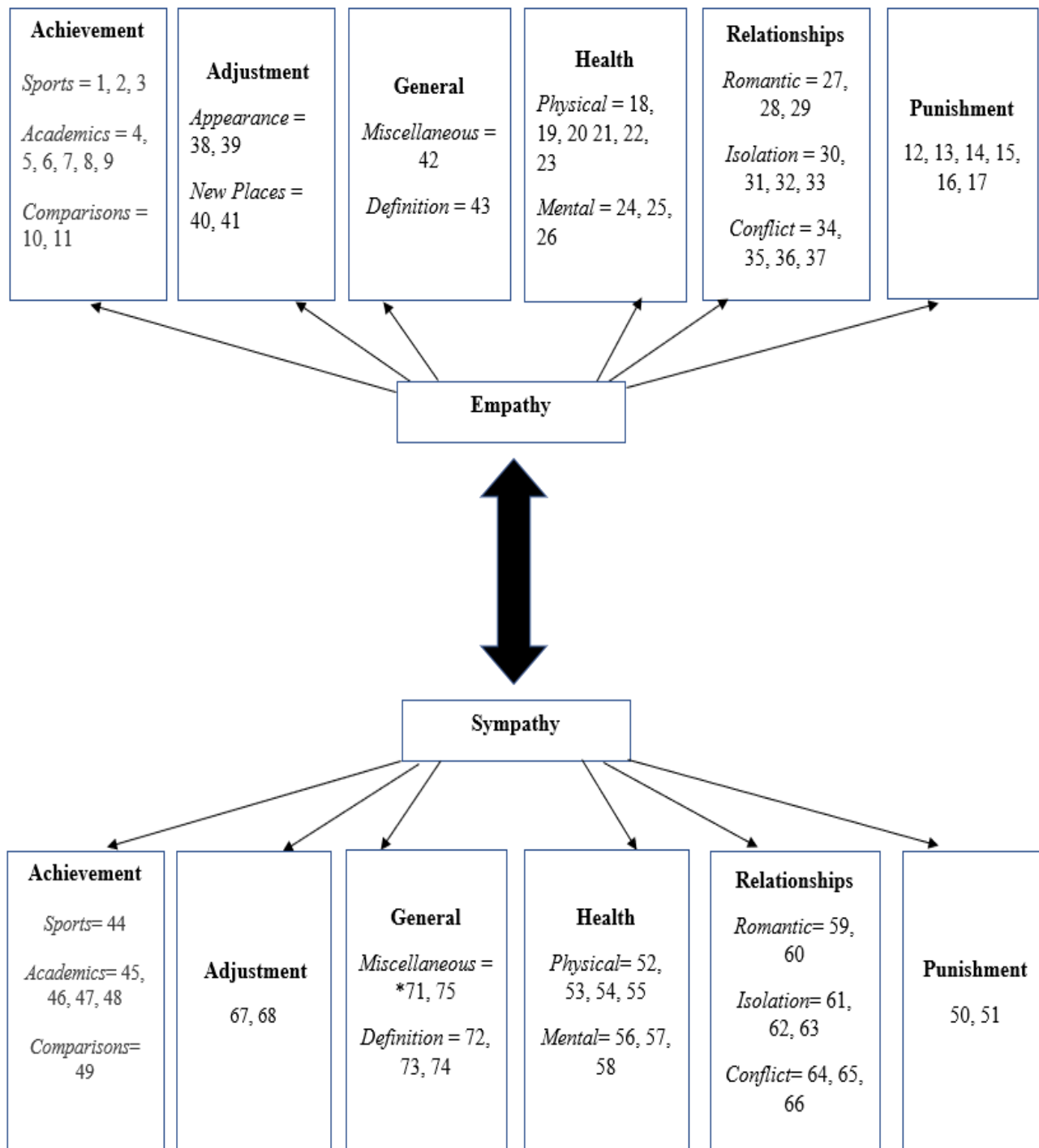
	Do you and your sibling share a room?			
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Are you and your sibling compared by others (e.g. academically, socially)?		Yes	No	Total
	Yes	0 / 25 (0.0)	23 / 25 (0.92)	23 / 25 (0.92)
	No	1 / 25 (0.04)	1 / 25 (0.04)	2 / 25 (0.08)
	Total	1 / 25 (0.04)	24 / 25 (0.96)	25 / 25 (1.0)

Table C48

Cross Tabulation of Nontwins Having Same Friends and Being Compared

	Do you and your sibling have the same friends?			
Are you and your sibling compared by others (e.g. academically, socially)?		Yes	No	Total
	Yes	14 / 25 (0.56)	9 / 25 (0.36)	23 / 25 (0.92)
	No	0 / 25 (0.00)	2 / 25 (0.08)	2 / 25 (0.08)
	Total	14 / 25 (0.56)	1 / 25 (0.44)	25 / 25 (1.0)



**69 and 70 did not fill in

Figure D1. Visualization of Empathy and Sympathy in Adolescent Sibling Relationships

Table D1 Codes and Sub-codes Used for Qualitative Data

Codes	Sub-codes
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Anticipates Sibling's Emotions

Critical Attitude Put Aside

Emotional Outburst

Experience Breeds Understanding/Input: Pain & Coping

- a. Coping with failure
- b. Coping with success
- c. Coping with emotions
- d. Coping with others
- e. Coping with physical pain

Feels Powerless in Helping

Feels Responsible for Sibling's Emotions

Health Danger

- a. Sibling's
- b. Own

Individual Failure Becomes Common Failure

Lack of Experience Breeds a Lack of Understanding

Notes Demographic Separation

- a. Age
- b. Gender

Provides Support without Experience

- a. Physical
- b. Psychological

Recalls Childhood Event

Reliving Experience

Takes Sibling's Side

Understands Sibling's Context

- a. Long-Term Cause and Effect
- b. How Circumstances Outside of Immediate Situation Affect Emotions

Unit Treatment Shapes Identity

Table D2 Quotes and Corresponding Codes and Sub-Codes used for Qualitative data

Quotation #	Empathy 1-42/Sympathy 43-74 (S) = nontwin response (T) = twin response	
1-43	Empathy	
1	Achievement - Sports (S)	Notes Demographic Separation-a Takes Sibling's Side Understands Sibling's Context-a Lack of Experience Breeds a Lack of Understanding
2	Achievement - Sports (S)	Experience Breeds Understanding/ Input: Pain and Coping (Provides Input)-a Notes Demographic Separation
3	Achievement - Sports (T)	Critical Attitude Put Aside
4	Achievement - Academics (T)	Provides Support without Experience-a
5	Achievement - Academics (T)	Provides Support without Experience-b
6	Achievement – Academics (S)	Takes Sibling's Side
7	Achievement – Academics (T)	Lack of Experience Breeds a Lack of Understanding Unit Treatment Shapes Identity
8	Achievement – Academics (T)	Anticipates Sibling's Emotions
9	Achievement – Academics (T)	Provides Support without Experience-a
10	Achievement – Comparison (T)	Unit Treatment Shapes Identity
11	Achievement – Comparison (T)	Unit Treatment Shapes Identity
12	Punishment (S)	Provides Support without Experience- Coping with Failure
13	Punishment (S)	Understands Sibling's Context-b

14	Punishment (S)	Understands Sibling's Context-b
15	Punishment (S)	Notes Demographic Separation (gender)
16	Punishment (T)	Anticipates Sibling's Emotions Recalls Childhood Event
17	Punishment (T)	
18	Health- Physical (T)	Anticipates Sibling's Emotions Health Danger-a Recalls Childhood Event
19	Health- Physical (T)	Health Danger-a
20	Health- Physical (T)	Experience Breeds Understanding/ Input-a
21	Health- Physical (T)	Health Danger-a
22	Health- Physical (T)	Understands Sibling's Context-b Experience Breeds Understanding/Input-b
23	Health- Physical (T)	
24	Health- Mental (S)	Provides Support without Experience- c
25	Health- Mental (T)	Provides Support without Experience- c
26	Health- Mental (T)	Understands Sibling's Context-b Critical Attitude Put Aside
27	Relationships- Romantic (S)	Experience Breeds Understanding/ Input-a
28	Relationships- Romantic (T)	Lack of Experience Breeds a Lack of Understanding
29	Relationships- Romantic (T)	Critical Attitude Put Aside
30	Relationships- Isolation (S)	Provides Support without Experience- d
31	Relationships- Isolation (S)	Experience Breeds Understanding/ Input- b
32	Relationships- Isolation (T)	Takes Sibling's Side Understands Sibling's Context- b

33	Relationships- Isolation (T)	Notes Demographic Separation- b Understands Sibling's Context- b Critical Attitude Put Aside
34	Relationships- Conflict (S)	Provides Support without Experience- d
35	Relationships- Conflict (S)	Notes Demographic Separation- a Takes Sibling's Side
36	Relationships- Conflict (S)	Lack of Experience Breeds a Lack of Understanding Provides Support without Experience- d Takes Sibling's Side
37	Relationships- Conflict (T)	Takes Sibling's Side Critical Attitude Put Aside
38	Adjustment- Appearance (S)	Anticipates Sibling's Emotions Understands Sibling's Context- a
39	Adjustment- Appearance (T)	Critical Attitude Put Aside Unit Treatment Shapes Identity
40	Adjustment- New Places (S)	Unit Treatment Shapes Identity
41	Adjustment- New Places (S)	Anticipates Sibling's Emotions
42	General- Definition (T)	Anticipates Sibling's Emotions
43	General- Miscellaneous (S)	
44-75	Sympathy	
44	Achievement- Sports (T)	Anticipates Sibling's Emotions Experience Breeds Understanding/ Input- b Individual Failure becomes Common Failure Reliving Experience

45	Achievement- Academic (S)	Notes Demographic Separation (Age) Feels Powerless in Helping Reliving Experience
46	Achievement- Academics (T)	Anticipates Sibling's Emotions Individual Failure becomes Common Failure Provides Support without Experience- a
47	Achievement- Academics (T)	Takes Sibling's Side Understands Sibling's Context- a
48	Achievement- Academics (T)	Provides Support without Experience- a
49	Achievement- Comparison (T)	Unit Treatment Shapes Identity
50	Punishment (S)	Takes Sibling's Side Reliving Experience
51	Punishment (T)	Individual Failure becomes Common Failure Understands Sibling's Context- b
52	Health- Physical (S)	Anticipates Sibling's Emotions Health Danger Emotional Outburst
53	Health- Physical (S)	Emotional Outburst
54	Health- Physical (T)	Emotional Outburst Health Danger
55	Health- Physical (S)	Provides Support without Experience- a
56	Health- Mental (S)	Feels Powerless in Helping Lack of Experience Breeds a Lack of Understanding Reliving Experience
57	Health- Mental (T)	

58	Health- Mental (T)	Experience Breeds Understanding/ Input- b Reliving Experience
59	Relationships- Romantic (S)	Critical Attitude Put Aside Individual Failure becomes Common Failure
60	Relationships- Romantic (S)	Lack of Experience Breeds a Lack of Understanding Notes Demographic Separation- a
61	Relationships- Isolation (S)	Feels Responsible for Sibling's Emotions
62	Relationships- Isolation (S)	Individual Failure becomes Common Failure
63	Relationships- Isolation (T)	Individual Failure becomes Common Failure
64	Relationships- Conflict (T)	Critical Attitude Put Aside Feels Responsible for Sibling's Emotions Experience Breeds Understanding/ Input- b Takes Sibling's Side
65	Relationships- Conflict (T)	
66	Relationships- Conflict (T)	Takes Sibling's Side
67	Adjustment (S)	
68	Adjustment (S)	Health Danger- a
69	Adjustment (T)	Anticipates Sibling's Emotions Individual Failure becomes Common Failure
69	Did Not Fill In (T)	
70	Did Not Fill In (T)	
71	General- Miscellaneous (T)	Unit Treatment Shapes Identity
72	General- Miscellaneous (T)	
75	General- Miscellaneous (T)	
75	General- Miscellaneous (S)	
72	General- Definition (T)	Anticipates Sibling's Emotions

73	General- Definition (T)	Feels Responsible for Sibling's Emotions
74	General- Definition (S)	Anticipates Sibling's Emotions

Appendix G