

The Association Between Parenting Style and Birth Order in Relation to Functioning in College

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Abstract

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Previous research surrounding birth order suggests that firstborn children tend to display higher levels of academic achievement than later born siblings. My research aimed to assess whether birth order is associated with Baumrind's (1971) parenting styles (authoritative, authoritarian, permissive, neglectful), with the inclusion of two measures of helicopter parenting (overprotective, over-involved parenting). The measures of helicopter parenting utilized were by LeMoyne & Buchanan (2011) and Schiffrin et al. (2014). My study explored how this potential association between birth order and parenting may mediate outcomes for college students, such as academic performance and party habits. 121 Union College students completed the questionnaire online. Unexpectedly, birth order did not correlate with any of the four traditional parenting styles. However, also unexpectedly, birth order negatively correlated with both helicopter parenting measures and the autonomy support measure, with firstborns reporting more helicopter parenting and more autonomy support than later borns. As hypothesized, birth order was positively correlated with the number of days students reported partying per week, such that later borns reported partying on more days than firstborns. These findings suggest that helicopter parenting and autonomy granting are not mutually exclusive, and parents are perceived to be providing both to their firstborn children more so than their later born children.

Contents

Introduction	1
Parenting Style Literature Review	1
Helicopter Parenting Literature Review	12
Birth Order Literature Review	18
Current Study	24
Methods	27
Participants	27
Procedure	28
Measures	29
Results	32
Gender analysis	32
Birth Order and Parenting	33
Parenting Styles and Helicopter Parenting	34
Well-being	35
College Behavior Variables	36
Discussion	37
Reference List	46
Table 1	56
Table 2	57
Table 3	58
Appendix A. Informed Consent	59
Appendix B. Debrief	60

The Association Between Parenting Style and Birth Order in Relation to Functioning in College

Parenting is such a large part of the human experience, whether one is parenting or being parented. The impacts of parenting will often follow a person throughout their lifetime, and a correlation has been found between parenting style and overall life satisfaction (Lavrič & Naterer, 2020). And yet, many questions still need to be answered, specifically about what influences parenting styles, possible relationships to birth order, and how this may predict college behaviors such as academic achievement and party habits (days spent partying and/or consuming substances). For example, does the birth order of a child evoke a type of parenting? This question is modified further by the reality that, while parenting style has been a topic of interest in research, the majority of completed research focuses on young, preadolescent children. This leaves even more unanswered about how parenting style relates to teenagers or college-aged children. The current study focused specifically on possible relationships between birth order and parenting style, including potential associations with helicopter parenting (overprotective, over-involved parenting), as well as assessing associations with other variables such as GPA and party habits. An emphasis was placed on college-aged individuals as the focus of the study.

Parenting Style Literature Review

One researcher that has shaped the research field of parenting is Diana Baumrind. An important figure in psychology, Baumrind developed the four main types of parenting through her research: authoritarian, authoritative, permissive, and rejecting-neglecting (later shortened to neglectful) (Baumrind, 1971). While the research was published in 1971, her findings are still

referenced today in developmental psychology, and her parenting dimensions are still widely accepted and utilized. Baumrind identified two central measures of parenting, warmth and control, and defined each of the four parenting styles within these terms. Warmth is defined by Baumrind as the parent's expressed love and compassion for their child through tenderness, verbal expression, and physical affection (Baumrind, 1967). Control describes the actions of the parent intended to socialize the child, and shape their behavior and standards, and does not necessarily denote strictness or punishment (Baumrind, 1967). Authoritarian parents value obedience and utilize punitive measures to force their children into following their instructions. These parents value respect, and can be ranked as high control and low warmth parents (Baumrind, 1971). Authoritative parents are more likely to utilize conversation and rational discussion to guide their children. They value expression and self-will along with conformity, and will attempt to affirm their child's qualities while setting standards for future conduct. Reason and power are present in this parenting style (Baumrind, 1971). It is a high control and high warmth method, widely considered to be the 'ideal' style of parenting. Then, there is the permissive style of parenting. This type of parent is acceptant, non-punitive, makes few demands of the child and accommodates their desires. They are more of a resource for the child rather than an active presence in shaping them, and they avoid using control (Baumrind, 1971). This parenting can be described as high warmth and low control. The fourth and final type of parenting described in Baumrind's work is the rejecting-neglecting parent. These parents do not provide attention or acceptance to their children, and their parenting style is considered both low warmth and low control (Baumrind, 1971). The name for this style of parenting has since been shortened to simply neglectful parenting.

Most of Baumrind's research was completed on younger children, primarily preschool-aged. However, the resulting parenting styles are not limited to young children, and have been applied to high school and college-aged individuals, as parenting is a lifelong process. Some of the findings with preschool-aged children have been significant in noting the effect that parenting can have on children, even at such a young age. In a notable research study conducted in 1967, four years before her research describing parenting styles, Baumrind measured behavior dimensions of both preschool-aged children and their parents, to see if there were any significant correlations. In children, she measured self-control, approach-avoidance tendency (defined as how children react to unexpected or stressful stimuli, either with interest or anxiety), subjective mood, self-reliance, and peer affiliation (the ability and desire to express warmth towards peers) (Baumrind, 1967). Parent behavior was measured by parental control, parental maturity demands (pressures put on children to perform in different spheres and to make their own decisions), parent-child communication, and parental nurturance (Baumrind, 1967). Children were grouped by their characteristics: independence, insecurity, levels of self-control or self-reliance, etc.

The results of this study showed that the children found to be socialized and independent had parents who were consistent, loving, secure, and that both respected independent decisions and could be firm. These parents well-balanced a high level of nurturance with high control, demonstrating what Baumrind later deemed authoritative parenting (Baumrind, 1967). Children who were less content, more insecure, and more likely to be hostile had parents that were less nurturing when compared with the previous group, and utilized more power and control while providing little support or affection (Baumrind, 1967). This demonstrates authoritarian parenting. The third group of children were lacking in self-control and self-reliance, and deemed immature when compared to other groups of children. The parents of this third group of children were

found to be disorganized, insecure, less controlling, and likely to baby the children, demonstrating permissive parenting (Baumrind, 1967). While the present study focused on older children, in either high school or college, the findings of this study with preschool children provide context as well as an understanding of the field of study.

While the research above focuses on younger, preschool-aged children, there are known associations between the parenting styles described and the outcomes of older children and adolescents in many different stages of life. When considering adolescent outcomes as related to parenting, academic achievement is often a popular measure. It can suggest connections to intelligence, as well as motivation and desire for accomplishment. This may be measured by grades, grade point averages, or any such similar method of understanding a child's achievements in school. Intelligence quotient (IQ) is often not utilized, because it is thought to measure the academic ability or potential of a child, not their actual performance (Dornbusch et al., 1987; Paulson, 1994). One researcher, Sarah Paulson, focused on this idea of academic achievement as a measure of parenting in a 1994 study. The participants were ninth-grade children and their parents. Parental involvement, demandingness, and responsiveness were measures, as was achievement outcome for the children, obtained through self-reports of grades from the most recent grading period. Results showed that higher levels of parental control (demandingness), as well as higher levels of responsiveness were associated with higher levels of academic achievement in the children. Increased parental involvement was also associated with better academic outcomes for children (Paulson, 1994). These findings support the hypothesis that authoritative parenting is the most effective for academic achievement, since high control and high responsiveness were associated with higher achievement.

Similar findings were reported by Steinberg et al. (1989). Participants were firstborn children between the ages of eleven and sixteen. The researchers explored academic achievement through both school grades and achievement state test scores, and measured psychosocial maturity of the children as well as parenting practices through three aspects: acceptance, psychological autonomy, and behavioral control. All three are noted to be pillars of authoritative parenting (Steinberg et al., 1989). Results showed that all three aspects of authoritative parenting independently correlated with increased academic achievement: children describing their parents as warm, democratic, and firm were more likely to develop positive attitudes towards achievement and therefore performed better in school than children who did not describe their parents in this manner (Steinberg et al., 1989). Importantly, the research found that the association of authoritative parenting on academic achievement was mediated by its effects on psychosocial maturity: each measure of authoritative parenting contributed to psychosocial maturity, which itself is highly correlated with academic achievement (Steinberg et al., 1989). A study by Dornbusch et al. (1987) similarly found that authoritative parenting was positively correlated with academic achievement in the form of self-reported grades and GPA for high-school students.

While GPA is a strong measurement of academic achievement, there are many other measures utilized throughout the various studies on academic achievement as related to parenting style. One study by Garg et al. (2005) measured academic achievement using grades from the previous year and measured parenting style in 13-15 year-old East Indian and Canadian children. Their results indicated that authoritative parenting was associated with the highest levels of academic performance, while neglectful parenting was associated with the lowest levels of academic performance among Canadian children. Surprisingly, there was no significant

relationship between academic success and parenting style in Indian children. Therefore, it is possible that culture plays some role in the relationship between parenting style and academics. The study by Hayek et al. (2022) indicated similar findings in regards to parenting style and academic achievement. Their study with students in grades 10 and 11 measured parenting and academic achievement by student self-report. These results showed that authoritative parenting was associated with higher academic achievement, as well as higher self-efficacy and higher intention towards academic achievement by the students. They found that self-efficacy and desire to achieve mediated the relationship of parenting style and academic achievement, indicating that authoritative parenting is associated with more self-efficacy and greater intention to achieve, which are associated with academic achievement. Another study by Zahedani et al. (2016) indicated similar findings with university students from 20-30 years old. Using transcripts as a measure of academic achievement, they found that a firm parenting style (authoritative parenting) more often led to educational success, while authoritarian parenting more often led to poorer educational success. Permissive parenting styles had no significant relationship to academics. A study by Baumrind (1991) also addressed academic achievement as related to parenting style through grades in a longitudinal study, assessing measures when participants were 4, 9, and 15 years old. Academic achievement was defined as scores on math and verbal assessments. Results showed that children of authoritative parents were cognitively motivated and achievement oriented, with the highest scores on the math and verbal skills assessments. Authoritarian parents had children with poor performances on verbal and math achievement tests, as did neglectful parents (Baumrind, 1991).

Areepattamannil (2010), while using school achievement as a measure of academic achievement, took a different approach and utilized parent-reported grades in school based on

work and performance. They also measured parenting style and practices with their sample of Canadian children 5-18 years old. Their results showed that dimensions of authoritative parenting were associated with school achievement: parental encouragement and high expectations for educational attainment both had a positive association with achievement. Dimensions of authoritarian parenting, including parental monitoring, were negatively associated with achievement, such that as authoritarian parenting increased, achievement decreased. A study by Steinberg et al. (1989) also used self-reports for academic measurement, asking for a self-reported GPA, time spent on homework per week, classroom engagement, and school misconduct. Children involved in the study were firstborns between 11 and 16. The results of this study showed a relationship between authoritativeness and indices of achievement (better school performance and stronger engagement). This association was mediated by parental involvement and encouragement: authoritative parenting promotes use of parental involvement and encouragement, which lead to higher academic achievement. A study by Glasgow et al. (1997) similarly used self-report and educational outcomes such as classroom engagement and self-reported grades, along with educational expectation, to measure achievement in high-school students. They found that students with non-authoritative parents were less engaged in classroom activities and had lower educational expectations, and that children of neglectful parents had the lowest expectations. It was also shown that children of permissive and neglectful parenting had lower grades than children of authoritative parents.

Academic success as shown through grades is clearly the most popular method of measuring academic success in parenting research. However, there are other measures sporadically used, one being academic motivation. Leung and Kwan (1998) utilized this measure in examining the relationship to parenting style. Their results indicated that authoritative

parenting predicted intrinsic motivation in children ages 13 and 14, while neglectful parenting predicted amotivation, or a lack of motivation, related to academics. Another more abstract measure of academic success is achievement strategy, utilized by Aunola et al. (2000) in their study of eighth-graders and their parents. Achievement strategies included failure expectations, task-irrelevant behavior, passivity, and self-enhancing attributions. Their results indicated that children of authoritative parents more commonly used adaptive, task-oriented strategies with their work. They also displayed low failure expectations, low levels of task-irrelevant behavior, and low passivity, while using frequent self-enhancing attributions. Authoritarian parents were more likely to have children with maladaptive strategies, passive behavior, and a lack of self-enhancing attributions. Children with permissive parents displayed low control and engagement, but did utilize more self-enhancing attributions than children of authoritarian parents. Finally, neglectful parents had children with the most maladaptive, task-avoidant strategies, high passivity and task-irrelevant behavior, and little to no self-enhancing attributions (Aunola et al., 2000).

Yet another method of operationalizing academic achievement is through attributional tendencies related to academics. The researchers Glasgow et al. (1997) used this method in their study of high school students. They measured parenting style and attributional tendencies (e.g. why do you get these good or bad grades?). They found that the students rating their parents as authoritarian, permissive, or neglectful were all more likely to report dysfunctional attributional tendencies (attributing grades to lack of ability, teacher bias, or task difficulty) as compared to children of authoritative parents. A study by Shucksmith et al. (1995) employed self-assessments of school for their measure of academic performance, including points such as a harboring general dislike of school and a resentment of teacher authority, reporting willingness to truant,

and regarding school as a waste of time. They found that children of authoritative parents had more positive assessments of school than children from the other three parenting styles.

Clearly, research supports the hypothesis that authoritative parenting is the most effective for academic achievement, since it is often correlated with higher achievement. However, there are other aspects to consider, as many factors can have an impact on academic success. One important factor to note is gender. Gender was noted in many of the previously mentioned studies as an important variable. For instance, the Dornbusch et al. (1987) article mentioned that, with both the negative correlations between authoritarian and permissive parenting, as well as the positive correlation between authoritative parenting and academic achievement, females had stronger correlations than males, although both were significantly associated (Dornbusch et al., 1987). The Paulson study (1994) also noted gender, reporting that, compared to girls, boys showed a stronger positive correlation between academic achievement and parental demandingness. Taken together, these findings suggest that female academic achievement decreases in response to a demanding, authoritarian parental practice, while that association may not be as strong in males. Gender does therefore seem to be a significant factor in the study of parenting styles and academic success and should be considered when evaluating research.

Parenting style, while clearly associated with academic achievement of a child, is also associated with children's social and emotional development. Regarding this topic, one major relationship is between parenting style and child's well-being. Well-being in this context, refers to a child's health and happiness: both should be high in order to consider a child as having good well-being. Well-being is often measured using a self-report scale. Several studies utilized this measure of well-being and found similar results, despite a range in age of the participants of 13-30 (Parra et al., 2019; Francis et al., 2020; Yadav et al., 2021). These studies all found that

authoritative and permissive parenting were associated with the highest levels of well-being, while authoritarian and neglectful parenting negatively correlated with well-being. A fourth study has also found concurring results, as well as an intervention program that can aid in psychological well-being for children. Arulsubila and Subasree (2017) utilized in their study a parenting training session, focused on teaching life skills to parents that would shift their parenting towards the authoritative style such as empathy, effective communication, and interpersonal relations skills. The subsequent changes in parenting and interaction between parents and children, measured three weeks post-training, were associated with an increase in their adolescent's life skills and psychological well-being of their children, ages 15-17.

Another popular measure of well-being is life satisfaction, since it indicates happiness as well as satisfaction with life, which denotes well-being. One study by Raboteg-Saric & Sakic (2013) used this measure as an indicator of well-being in their study with 9-12 grade students. Along with life satisfaction, the researchers also measured self-esteem, subjective happiness, parenting style, and friendship quality. They found that children of authoritative or permissive parents had higher self-esteem, higher life satisfaction, and higher personal happiness than children with authoritarian parents. They also found that paternal parenting style had a stronger association with self-esteem and life satisfaction, while maternal parenting style has a stronger association with personal happiness. Overall, parenting style was a strong predictor of life satisfaction (Raboteg-Saric & Sakic, 2013). Other studies found similar results, showing that authoritative parenting predicted higher life satisfaction and higher self-esteem in children, while authoritarian parenting predicted the opposite (lower life satisfaction) (Lavrič & Naterer, 2020; Milevsky et al., 2006). Taken together, these studies suggest that authoritative parenting is a

strong predictor of high life satisfaction in children, while authoritarian parenting predicts a lower level of life satisfaction.

While life satisfaction can be a good measure of well-being, depression and anxiety scales are often used to explore lack of well-being. The study by Milevsky et al. (2006), while using life satisfaction and self-esteem, also used depression and a dependent variable. The results were similar to those above: authoritative parenting was associated with lower depression levels compared to other parenting styles. Another study by McFarlane et al. (1995) showed similar results. In this study, Canadian 10th grade students completed two questionnaires including depression as a measure. Results showed a negative relationship between parental care and depression, such that as parental care increased, depression decreased. Researchers also found a positive relationship between overprotection and depression, indicating that as one rises, so does the other. This measurement of depression or anxiety can more broadly be interpreted as psychological distress, which is seen in the study by Shucksmith et al (1995). Findings from the subject pool of 13-16 year olds in school showed that, similar to all others, authoritative parenting was associated with fewer symptoms of psychological distress. They also indicated that neglectful parenting was associated with raised levels of psychological distress (Shucksmith et al., 1995). The findings from these three studies, when considered together, seem to support the previous findings suggesting that authoritative parenting predicts high levels of well-being in children, while authoritarian and neglectful parenting predicts low levels of well-being.

Similarly to depression, problem behavior and acting out can also indicate a lack of well-being. In the study by Shucksmith et al. (1995), problem behavior of 13-16 year-old children in school and at home was included in their measurements. Problem behavior was measured through self- and parent-report. Results showed that neglectful parenting was most

strongly associated with problem behavior and conflict, while all other parenting styles indicated much less problem behavior. Problem behavior can also be measured through more specific behaviors, rather than generally. One major aspect of problem behavior to indicate well-being is alcohol and drug use. One with high levels of substance use would not be considered to have high well-being. Baumrind (1991), one of the most prominent parenting researchers, has conducted studies on this topic. In her work, she measured personality and problem behavior, including drug and alcohol use, as well as parenting style for a group of children and parents. Interviews and observations were conducted when the children were 4, 10, and 15 years of age. Results showed that children of authoritative or democratic (more conscientious and engaged) parents used drugs or alcohol the least of all groups, and nonauthoritarian-directive (low on intrusion) was the next lowest group. Neglectful parenting was associated with children with high externalizing behavior and problem drug and alcohol use, including illicit drugs. These children were often heavy or dependent users (Baumrind, 1991).

Helicopter Parenting Literature Review

Helicopter parenting is a relatively new interest in the field of psychology. It refers to a parent or parents that are overinvolved, overprotective, and overcontrolling of their children excessively or past the age-appropriate point (American Psychological Association, n.d; Padilla-Walker & Nelson, 2012). This may extend into college or adult life. Helicopter parenting is being described as a “unique patterning of the basic dimensions of parenting” (Padilla-Walker & Nelson, 2012). That is to say, it is not entirely new, but rather uses the basic dimensions of parenting styles (responsiveness, control, autonomy) in new ways. Helicopter parenting is a high warmth, high control parenting style that is also low on autonomy granting (Padilla-Walker &

Nelson, 2012). It relates to other accepted and notarized types of parenting in many ways: it is like authoritative parenting with the elements of high warmth and control, and like authoritarian parenting because of the high control and low autonomy granting aspects. It has been found that helicopter parents engage in many behaviors consistent with authoritative parenting, but those behaviors become unhelpful in excess (and they would be in excess with helicopter parenting) (Turner et al., 2022). Helicopter parenting is dissimilar to permissive parenting because of the high levels of control and low levels of autonomy granting utilized, which are in contrast with the characterization of permissive parenting. The following section of research on helicopter parenting will focus primarily on research done with college students, as that is most relevant to the current study.

Helicopter parenting, especially in relation to college students, has strong associations to academic performance. One study by Darlow et al. (2017) measured helicopter parenting, GPA, and adjustment to college to look at this academic association. This study was conducted with college undergraduate students. Their results showed that higher levels of parental control and helicopter parenting were associated with lower levels of academic adjustment to college. They also found, more indirectly, that helicopter parenting was related to lower self-efficacy, which is associated with lower levels of academic adjustment. Klein and Pierce (2009), in their study of college students, found similar results. They broke parenting into four groups: optimal (high care and low overprotection), affectionately constraining (high care and high overprotection), affectionless controlling (low care and high overprotection) and neglectful (low care and low overprotection). Optimal parenting relates to Baumrind's (1971) authoritative style, while affectionately constraining and affectionless controlling are subtypes of authoritarian parenting (high control with variations of warmth). They found that optimal parenting produced the best

outcome for children regarding adjustment to college. Less parental care led to more difficulties with adjustment, as did overprotection. Overprotection from fathers was much more strongly related to student adjustment than maternal overprotection (Klein & Pierce, 2009).

Several studies with college students have reported that the heavy use of helicopter parenting was related to less academic engagement or motivation and lower grades (Howard et al., 2020; Padilla-Walker & Nelson, 2012; Alhabadi et al., 2019). One such study found a very clear relationship between helicopter parenting and academic achievement. Luebke et al. (2016) found in their study on emerging adults (with an average age of 18.85) that helicopter parenting was associated with poorer academic achievement and attachment to college. It was also found to have a relationship with decision making, such that increased helicopter parenting predicted less adaptive decision making (more dependent and avoidant, less rational). However, one aspect of helicopter parenting, parental information seeking, was positively related to high school GPA, indicating that individual aspects may not be as harmful as when many aspects are experienced (Luebke et al., 2016).

Academic motivation has also been explored as a measure of academic success related to helicopter parenting. The study by Schiffrin & Liss (2017) found that, among college students, reports of maternal helicopter parenting were associated with extrinsic motivation to learn and a focus on perfectionism, both of which are negatively related to academic performance. Further, the study showed that maternal reports of high helicopter parenting predicted more maladaptive academic motivations, such as mastery avoidance and other avoidance goals, that may also have negative implications for academic achievement.

One study done by Hwang and Jung (2020) aimed to investigate the relationship between helicopter parenting and college-aged children's perceived academic control. Their sample was

college students, and their results indicated that the participant's perceived academic control was negatively correlated with helicopter parenting. It also found that perceived academic control increased with mothers' autonomy support. Similarly to academic control, fear of negative evaluation can be used as a measure. A study with undergraduate college students used fear of negative evaluation as related to helicopter parenting as a measure of its effect on academics. Their results showed that helicopter parenting could predict levels of fear of negative evaluations and was associated with reduced autonomy. Therefore, it seems that autonomy is a mediating variable for helicopter parenting and fear of negative evaluations (Carr et al, 2021).

It is clear from the discussed literature that helicopter parenting has significant relationships to many measures of academics for college students, including grades and GPA, motivation, and engagement with school, all of which are negatively correlated with helicopter parenting. However, that is not the only area of life it may relate to. Helicopter parenting can also be seen to have a significant association on wellness for children. This section will continue to focus on college students, since that literature is most relevant to the current study. One study by Schiffrin et al. (2014) measured mental wellness variables, as well as life satisfaction, along with helicopter parenting in college undergraduates. These results showed that helicopter parenting predicted an increase in depression symptoms, and an increase in the use of prescription drugs for depression, as well as decreased satisfaction with life. A separate study by Schiffrin et al. (2019) (six years later) took several measures of well-being (basic needs satisfaction, satisfaction with life, depression, anxiety, well-being through autonomy, competence, and relatedness), as well as helicopter parenting. The sample was, again, college students. The results indicated that maternal helicopter parenting had associations to the child's reduced well-being on measures of depression, anxiety, and satisfaction with life, through a reduced sense of autonomy and

competence. Paternal helicopter parenting did not have quite the same effects. Helicopter parenting from fathers was associated with the child's well-being only through autonomy: increased paternal helicopter parenting predicted less autonomy for students (Schiffirin et al., 2019).

Findings such as these regarding helicopter parenting and well-being, especially through mental health measures such as depression and anxiety, are abundant. A study by Wenzel et al. (2019) found that, in regards to undergraduate college students, helicopter parenting was associated with higher levels of depression and anxiety. These findings were both mediated by experiential avoidance: helicopter parenting associated with experiential avoidance, which was associated with high depression and anxiety. Turner et al. (2020) continued to support such findings, with results showing that helicopter parenting related to lower authentic living and great self-alienation, both of which are related to symptoms of depression. Participants for this study were college students under the age of 26.

One measure of well-being that warrants discussion is substance use, as increased substance use can often be a predictor of lower well-being. The study by Cui et al. (2018) included college-aged female participants, and aimed to measure helicopter parenting, psychological needs satisfaction, self-control, and alcohol use. Results showed that helicopter parenting was negatively correlated with self-control, and self-control was negatively associated with alcohol use, suggesting that helicopter parenting was associated with higher alcohol use through self-control. This may further suggest that helicopter parenting could be associated with lower levels of well-being.

Another study also examined helicopter parenting as it related to wellness and the associations it may have for students. The sample of this study by Kwon et al. (2017) was

Korean-American college students aged 17-26. The participants of this sample noted that helicopter parenting does not allow for freedom or opportunities for independence, which feels damaging to their sense of self. They also noted that they perceived helicopter parenting in relation to wellness to predict introversion, loneliness, stress, and resentment among the students. To support these results, the study by Bradley-Geist and Buchanan (2014) may be relevant. Also using a sample of undergraduate college students (and also not specific to one race), this study measured parenting behaviors for aspects of helicopter parenting and self-efficacy. The results support the perceptions of the participants from the Kwon et al. (2017) study, as they showed that over-parenting had an association with lower student self-efficacy (Bradley-Geist & Buchanan, 2014). The finding of this relationship between increased helicopter parenting and lower student self-efficacy is supported by the results of a study by Jung et al. (2019a), which found this same relationship, once again among undergraduate college students. These findings are further supported by Darlow et al. (2017).

In order to categorize and better understand different styles of helicopter parenting, one study by Rote et al. (2020) aimed to profile families of emerging adults (average age 19.87) noting overcontrol and helicopter parenting. While helicopter parenting is overinvolvement in the child's life, such as intervening with a child's teacher over a bad grade, overcontrol is more intrusive and actively restricts the child's autonomy. Children experiencing overcontrol report feeling as though their parents control everything in their lives. They created four profiles: autonomous (low helicopter parenting and over control), mother overcontrol (high helicopter parenting and overcontrol), father overcontrol (high helicopter parenting and overcontrol), and helicopter parenting acceptors (high helicopter parenting behaviors but low overcontrol). They found that the children of overcontrolled groups displayed the highest internalizing symptoms,

while the children of autonomous groups displayed the lowest internalizing symptoms. However, they also found that helicopter parenting without overcontrol (helicopter parenting acceptors) had children with the most intimate disclosure to their parents, again indicating that certain aspects of helicopter parenting are dangerous, while others are acceptable (Rote et al., 2020).

Birth Order Literature Review

Birth order, a reference to the ordinal position in which a child is born into their family, is an important factor in a child's life experience and perception of the world. Birth order in relation to academics has some controversial findings: some show significant relationships, while others report no results. Test scores are one popular method of operationalizing academic achievement. Theroux (1993) analyzed the SAT scores of nearly 200,000 students entering college. Results showed that increasing birth order was associated with a decrease in SAT verbal achievement and math skills. Only children were also included in this study, and were found to have lower GPAs and SAT math scores than firstborns, although they showed similar SAT verbal scores. LeMay (1970), working with female college students, also found that firstborns performed better on the verbal portion of the SAT by 19.3 percentage points, and better on the math portion of the SAT by 15.6 percentage points. However, a study by Parker (1998) found that while firstborns achieved higher scores in verbal assessments, later born children were more likely to have higher mathematical achievement. This is somewhat in contrast to the above studies reporting that firstborns achieve more in both categories (verbal and math skills). This is one demonstration of some of the discrepancy within research regarding birth order and academics.

While the SATs are a strong measurement of academic achievement, seeing as they are well-monitored and consistent, are not the only test measure utilized when considering academic success. Many, more general, tests have been employed for this research topic. Regarding high school seniors, tests of reading comprehension, abstract reasoning, and mathematical aptitude, were found to have a decreasing progression of intelligence with birth order (Burton, 1968). As birth order increased, intelligence (as measured by these tests) decreased. Burton (1968) also found a higher mean intelligence among firstborns than last borns, which would be expected considering the previous finding. This decline in academic performance in regards to increasing birth order among high school students (13-17 years old) was also found by Cherian (1990). This association was further supported by Fergusson et al. (2006), who similarly found that increasing birth order results in lesser academic achievement. Academic achievement here was measured via educational attainment during a longitudinal study conducted from the participant's birth to age 35. Firstborns displayed a mean achievement score of 0.45 standard deviations higher than fourth- or later born children. Another study continues to support this, finding that early birth order was associated with higher individual achievement scores and higher vocabulary test scores, and that the last born in a family of four was 15% less likely to be among the best students in a class than the firstborn (Hotz & Pantano, 2015).

Other studies, instead of including a specific focus on test scores, discuss academic achievement more generally. This can be useful since multiple factors can affect scores on a test, such as test anxiety or environmental distractions. One such study conducted by Nuttall et al. (1976) measured academic achievement by grades from the past year. Findings showed that firstborn girls had higher academic achievement than later born girls, but the results were non significant for boys. This result not only displayed a correlation between achievement and birth

order, but also a possible relationship with gender as well, which should be considered when interpreting results. A study done by Marjoribanks (2003) also defined academic achievement outside the scope of grades, instead utilizing academic self-concept (how well students believed they were performing in comparison to other students) and educational aspirations (plans and goals for future education). This was a longitudinal study completed over five years, following participants from age 15-20. Results showed that lower birth order had an association with educational attainment and aspirations.

While testing and grades are very clear indicators of academic achievement, other operationalizations have also been used. One study used the admission to a special education school as a measurement of academic success (Belmont et al., 2008). This same study also included failure in school, defined here as not completing the mandatory six years of school before reaching the age at which they could leave school (in the Netherlands). In this study, later born children had higher rates of enrollment in special education as well as higher rates of failure in school. Another more obscure operationalization comes from Hotz and Pantano (2015) in their study on youth ages 10-14 with one or more siblings. In this study, academic success was measured by how the mother of the student perceived the student to be performing in school. The results showed that firstborns were most likely to be perceived by mothers as best in their class, and least likely to be considered in the bottom of the class. Personal belief in intellect as well as aspiration, admission, and enrollment at selective schools has also been used. This was another measure used by the Theroux (1993) study. Results of this operationalization showed that firstborns were more likely to attend a selective institution and more likely to aspire to a higher level of education. These findings are further supported by the study by Lehmann et al. (2016).

Firstborns also rated their academic ability more highly than did younger siblings (Theroux, 1993).

While there are many studies above that have found significant and valid results, others have found no significant correlation between birth order and academic achievement. The study by Reyes-Baybay (2018) on the Santa Rosa Campus is one example: measurement of academic achievement was GPA and no results proved significant. Another study by Farley (1967) similarly found no birth order differences in regards to academics. GPA at a four-year undergraduate program was again used as measurement, with no significant findings. The study by LeMay (1970) reported no support for the academic superiority of firstborns from data regarding high school GPA or graduation rates.

Although the relationship between birth order and academic achievement is still somewhat unclear based on disagreement in findings, the correlation between birth order and well-being is more clear. In one of the most common and general operationalizations of well-being (mental wellness), some strong relationships can be seen. In one study by Fullerton and Ursano (1989), adults entering the military aged 17-23 were used as the sample. They measured psychological well-being through positive affect and negative affect (anxiety, worry, tension, and psychosomatic symptoms). Results showed that in males, firstborns had lower psychological well-being than other borns, and scored higher on the negative feelings subscale, which is correlated with psychological distress and anxiety. These results were specific to men, and no female results were significant, but their sample was a majority male, and the small sample of females could account for the lack of findings. Similar findings were reported by Chandola and Tiwari (2016): their study, with a split sample utilizing both healthy and psychiatric patients, showed that firstborns were more likely to have a mental illness than

younger or middle children. Another study also noted that firstborns were seen to have greater anxiety than later borns, as well as more fear of physical injury (Eisenman, 1992).

Another measurement of well-being, perhaps more indirect than the mental wellness, was personality traits, specifically neuroticism and conscientiousness. One study conducted by Volkom et al. (2019) used college students as their sample to study personality and birth order. Their results showed that older children scored higher in conscientiousness than younger children, and younger children scored higher in neuroticism than middle children. Neuroticism refers to anxiety, self-doubt, and other negative feelings. These results would indicate that younger children therefore were more likely to feel anxiety and other negative feelings than firstborns. Another study also used this idea of personality as an indicator of well-being. The study by Johson (2014) included participants over 18 with siblings that lived in a 2-parent home from 0-12 years of age. They measured personality, self-esteem, and satisfaction with life. These results showed that neuroticism negatively correlated with life satisfaction, which holds implications for the results of the Volkom et al. (2019) study. They also found that last borns were more open to experience than middle borns (Johson, 2014).

Other studies have taken different approaches to the operational definition of wellness. One study showed the relationship between birth order and maladaptive schemas (unhelpful cognitive frameworks, such as perfectionism) in their work. The study, done by Nilüfer (2016), focused on participants aged 18-30 with intact families. They found that younger males developed a stronger disconnection schema (perception that emotional needs are not being met) than older male siblings, and that younger siblings with negative parenting styles were more likely to develop the impaired autonomy schema (established belief of inadequacy and inability to be independent) and the unrelenting standards schema (perfectionistic ideals).

It is important to consider how these factors of parenting style and birth order intersect. Some studies have examined how these two can relate to each other. One study conducted by Stansbury and Coll (1998) showed that firstborns perceived parenting as more authoritarian than middle or last born children. They also found that middle and last born children were more likely to perceive either a mix of parenting styles or authoritative parenting. Another study by Spota and Paulson (1995) similarly found that children perceived parenting differences while parents did not. The sample included ninth-grade students and both their mothers and fathers. Results showed that first and second-born children tended to perceive their mothers as more demanding than the third born. Also, children were more likely to perceive differences in the parenting of their mothers: second-born children perceived their mothers as more responsive than the first or third children.

Other studies, while not making direct connection to Baumrind's parenting styles, still provide valuable information that allow further understanding of the association between birth order and parenting style. One study done by Rule (1991) found that firstborn children perceived parents as more strict than later borns amongst the college-aged participants. This supports previous associations between firstborns and authoritarian parenting, since strictness would be an authoritarian trait.

While the above studies all show similar findings (that firstborns experience more authoritarian parenting), there have been results in contrast to this relationship. A study by Swaroopa & Anuradha (2017) found that both authoritarian and authoritative parenting differed in regards to birth order: as birth order increased, mothers practiced more authoritarian parenting and less authoritative parenting. The study by Nilüfer (2016) found that last born siblings perceived their mothers as more overprotective and anxious than firstborn children in

participants aged 18-30. Overprotection aligns with tendencies of helicopter parenting and authoritarian parenting. Therefore, this result suggests that later born children experienced more authoritarian and helicopter parenting behaviors in this study. Another study by Lehmann et al. (2016) found that firstborn children receive more cognitive stimulation and parental attentiveness than later borns. The finding of parental attentiveness indicates high warmth, and along with ensuring cognitive stimulation, suggests a parenting style more similar to authoritative parenting. These results are in contrast to the previously mentioned studies. The discrepancy between these findings suggests a need for further research, to explore these differences and the factors that may contribute.

Current Study

The results of the previous literature, while unclear regarding some topics, indicate a present relationship between Baumrind's (1971) parenting styles, helicopter parenting, and birth order, with associations to academic achievement and party habits. The current study aimed to assess whether birth order is associated with parenting styles, including Baumrind's (1971) authoritative, authoritarian, and permissive styles and helicopter parenting, and whether that predicts other outcomes for college students, such as academic performance and party habits. Undergraduate college students completed an online questionnaire assessing parenting style, helicopter parenting, and college behavior outcomes such as academic performance and party habits. Birth order and other demographics were also collected.

I hypothesized that birth order would be associated with parenting style such that firstborns would report more authoritarian parenting, while later borns would report more authoritative. This prediction was based on the Stansbury and Coll (1998) article that showed

that firstborns perceived their parents to be more authoritarian while later born children perceived more authoritative parenting, and on the Sputa and Paulson (1995) article that stated that firstborn children perceived their mothers as more demanding than later born children. These findings that support an association between firstborn children and authoritarian parenting are in disagreement with other relationships, namely that firstborn children have higher academic achievement and that authoritative parenting predicts higher academic achievement. These findings are in contrast because they suggest that firstborn children experience authoritarian parenting and achieve academic success, but also that authoritative parenting should predict academic success. This is a discrepancy in the research, and more exploration should be done to better understand these findings. It may be the case that, as described by Eisenman (1992), firstborns become more intellectually oriented than later borns because they have more exclusive adult company in early development, but that authoritative parenting best nurtures academic success.

Based on work by Eisenman (1992), which states that parents are more concerned with firstborns and therefore attend to them more carefully and can be over-solicitous (which reduces independence), I also hypothesized that birth order would correlate with helicopter parenting. It was also expected that birth order would relate to academic achievement, such that firstborns would have higher academic achievement. I hypothesized this based on the research of LeMay (1970) and Theroux (1993), both of which found that firstborns achieved higher SAT scores in both verbal and math sections. The research of Cherian (1990) and Burton (1968), both reporting a decrease in academic performance with the increase of birth order also informed this hypothesis. I further hypothesized that birth order and well-being would correlate, such that firstborns would report lower levels of well-being, based on the research of Fullerton & Ursano

(1989), which found that firstborn children reported higher negative feelings and correlated with distress and anxiety. It was further predicted that birth order would be correlated with party habits (days spent partying and/or consuming substances), such that firstborns would exhibit fewer party habits than later born children, due to the findings of Johson (2014), which showed that later born children are more open to experience.

Based on the research of Padilla-Walker & Nelson (2012), which suggested similarities between Baumrind's (1971) parenting styles and helicopter parenting (with authoritative parenting sharing high levels of control and high warmth, and authoritarian parenting sharing high control and the low autonomy granting of authoritarian parenting), I predicted that helicopter parenting would positively correlate with both authoritative and authoritarian parenting styles. The results from Turner et al. (2022) finding that helicopter parenting and authoritative parenting share many behaviors were also considered while formulating this hypothesis. Helicopter parenting was predicted to negatively correlate with permissive parenting, due to the ideological differences regarding control and autonomy granting (Padilla-Walker & Nelson, 2012).

I hypothesized that parenting style would also have a relationship to academic achievement, such that children of authoritative parents would have higher academic achievement. I hypothesized this based on findings from Zahedani et al. (2016), which showed a firm style, such as authoritative, was more likely to lead to educational success while an authoritarian style led to poorer educational success, the study by Dornbush et al. (1987) showing a positive correlation between authoritative parenting and academic achievement, and the findings by Baumrind (1991) that children of authoritative parenting scored highest on math and verbal tests while children of authoritarian and neglectful parenting scored poorly. Based on

the research of Milevsky et al. (2006), Parra (2019), and Yadav et al. (2021), all of which found that authoritative parenting correlated positively with high levels of well-being, while Parra (2019) also showed a negative correlation between well-being and authoritarian parenting, it was also predicted that authoritative parenting would yield the highest levels of well-being.

I further hypothesized that helicopter parenting would be negatively associated with academic achievement. I hypothesized this based on the findings of Luebbe et al. (2016) associating poorer academic achievement with higher levels of helicopter parenting, and results from Howard et al. (2020) showing that high levels of helicopter parenting associated with poor end-of-term outcomes (Howard et al., 2020; Luebbe et al., 2016). It was also expected that helicopter parenting would negatively correlate with well-being, based on the results found by Wenzel et al. (2019) that showed a relationship between helicopter parenting and depression. The results from Turner et al. (2020), which suggest that helicopter parenting is related to lower authentic living and greater self alienation (both of which are related to symptoms of depression), also informed this hypothesis. Helicopter parenting was also expected to predict increased party habits, such as substance use and days spent partying. This was based on the findings of Cui et al. (2018), which showed that helicopter parenting was negatively correlated with self-control, and self-control was negatively associated with alcohol use, suggesting that helicopter parenting was associated with higher alcohol use through self-control.

Methods

Participants

The participants for this study were recruited from Union College in Schenectady, New York via email and the college psychology research website. The range of age of the participants

was 18-23, and mean age was 19.58, with 25 males, 86 females, and 7 students identifying as an unspecified other gender identity, for a total of 118 participants. Out of these participants, 116 reported their birth order. The resulting birth order data is as follows: 11 only children, 47 firstborns, 40 second-borns, 11 third-borns, 6 fourth-borns, and 1 fifth-born. The sample held the following racial and ethnic makeup: 81 White or European, 3 Black or African American, 9 Latinx, 7 multiracial, 15 Asian, 1 Indian, 1 Middle Eastern, and 1 Jewish. Participation in this study was voluntary. Participants could receive either partial credit towards a psychology course requirement, or the option to enter a raffle for a \$50 Amazon gift card.

Procedure

The survey for this study was administered online. Participants were given an informed consent form before beginning the study informing them that the questions would pertain to themselves and their family, especially parents and parenting, and that participation in the study was voluntary and could be terminated at any time (Appendix A). Anonymity and confidentiality were assured. Continuation of the study was noted to signify understanding of the informed consent and willingness to voluntarily participate. Informed consent contained no deception but did not fully disclose the purpose of the study. The estimated time necessary to complete the survey was approximately twenty minutes. After completing the survey, participants were debriefed on the purpose of the study (Appendix B). Since the survey contained topics of substance use, the debrief provided information for substance abuse services. The debrief also contained instructions for entering the raffle or receiving partial course credit. The raffle was conducted after all data collected was terminated. The study was approved by the local Institutional Review Board of Union College.

Measures

Demographic Information: Demographic information was collected at the beginning of the survey including age, year in college, major in college, gender identity, race / ethnicity, number of siblings, family configuration in the household , and birth order.

College Behavior Variables: College behavior variables were also measured in this questionnaire. The desired variables were current academic success and party habits. For academic success, the survey asked for participants to report their current GPA and average number of hours studying per week. For party habits, information on the average number of days per week spent in a bar, at a party, consuming alcohol, and consuming drugs was collected.

Parental Authority Questionnaire: The Parental Authority Questionnaire (PAQ) by Buri (1989) was utilized to measure perceived parenting style during childhood. Participants were asked to think back on their childhood, identify the parent most heavily involved in discipline, and respond to the statements provided with that parent in mind. A 5-point Likert scale was employed, with 1 indicating strong disagreement and 5 indicating strong agreement. There were 30 questions provided for this questionnaire, and 3 subscales within the 30 questions. The subscales measure authoritative, authoritarian, and permissive parenting styles, with 10 questions per subscale. With a highest possible rating per question being 5, the highest possible score per subscale was 50, with a higher score indicating more alignment with that particular parenting style. Examples of questions include: An example of an authoritarian question would be “Whenever my parent told me to do something as I was growing up, they expected me to do it immediately without asking any questions.” An authoritative question example includes “As I was growing up, once family policy had been established, my parent discussed the reasoning behind the policy with the children in the family.” One example of a permissive question is “My

parent has always felt that what children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parent might want.” The Cronbach’s Alpha in the original study was presented according to six subscales with a range 0.74-0.87 and mean of 0.81, twice as many subscales as the current study because they asked about mothers and fathers separately, which the current study did not. The Cronbach’s Alpha computed in the current study for this measure was computed for the three subscales of authoritative, authoritarian, and permissive parenting. The Cronbach’s Alpha for the authoritative subscale was .88, the alpha for the authoritarian subscale was .92, and the alpha for the permissive subscale was computed to be .79.

Helicopter Parenting Questionnaire: The Helicopter Parenting Questionnaire was created by LeMoyne and Buchanan (2011) to measure the amount that individuals felt their parent(s) was controlling and transactional in their parenting. Participants were asked to answer the questions with regards to the parent most involved in their discipline as a child. A 5-point Likert scale was employed, with 1 indicating strong disagreement and 5 indicating strong agreement. There were a total of 7 questions for this scale, and no sub-scales. A higher overall score suggests higher levels of helicopter parenting. Questions included “My parent often steps in to solve life problems for me” and “Growing up, I sometimes felt like I was my parents’ project”. The Cronbach’s Alpha for this measure in the original study was 0.71. In the current study, Cronbach's Alpha was computed to be .66.

Helicopter Parenting and Autonomy Supportive Behaviors: The Helicopter Parenting and Autonomy Supportive Behaviors questionnaire is by Schiffrin et al. (2014). For this portion of the survey, participants were asked to respond to the statements regarding the parent that was most involved in their life at the time of this study. A 7-point Likert scale was utilized, with a

score of 1 indicating strong disagreement and a score of 7 indicating strong agreement. There are two subscales of this questionnaire: helicopter parenting and autonomy support. The helicopter parenting subscale includes 9 statements, including things such as “My parent regularly wants me to call or text them to let them know where I am” and “If I am having an issue with my roommate, my parent would try to intervene”. A higher score on this subscale indicates higher levels of helicopter parenting. The Cronbach’s Alpha for this subscale in the original study was 0.77. The autonomy support subscale includes 5 statements, including “My parent encourages me to choose my own classes” and “My parent encourages me to deal with any interpersonal problems between myself and my roommate or my friends on my own”. A higher score in this subscale suggests higher levels of autonomy support by the parent. The Cronbach’s Alpha for this subscale was .71 in the original study. In the current study, Cronbach’s Alpha for the helicopter parenting subscale was computed to be .78, and the alpha for the autonomy support subscale was found to be .79.

Psychological Well-being Scale: The Psychological Well-being Scale was created by Ryff & Keyes (1995). The shortened 18-question version of this scale was utilized to minimize the time needed to complete the questionnaire. Participants were asked to respond to each statement again based on a 7-point Likert scale, with a score of 1 indicating strong disagreement and a score of 7 indicating strong agreement. This questionnaire consists of six subscales: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Each subscale has 3 related questions. A higher score on each subscale indicates higher levels of well-being in that category, with a higher overall score on the questionnaire indicating higher levels of well-being overall. Examples of included statements include: “People would describe me as a giving person, willing to share my time with others” and “I tend to be

influenced by people with strong opinions.” The current study did not differentiate between the subscales, since focus was on well-being overall, not on specific categories of well-being. In the original study, the six subscales produced a range of Cronbach’s Alphas (0.70-0.89). The current study computed only one Cronbach’s Alpha for .87, since the six separate subscales were not utilized.

Results

Means and standard deviations for all major variables can be found at the end of the results section in Table 1.

Gender analyses

We analyzed any possible gender differences using independent sample t-tests, separating data into male and female participants. Data from those identifying as ‘unspecified other’ were not included. All means and standard deviations for these t-tests can be found in Table 2. There was no difference regarding authoritative parenting and gender, $t(103) = .818, p = .414$, between females and males. Authoritarian parenting also did not differ based on gender, $t(103) = .473, p = .637$. Permissive parenting yielded similar results, $t(103) = -.487, p = .627$. Both measures of helicopter parenting and autonomy support also showed no gender differences. Helicopter support measured by Schiffrin et al. (2014) did not differ by gender, $t(95) = .222, p = .824$, nor did helicopter parenting as measured by LeMoyne & Buchanan (2011), $t(98) = .684, p = .496$. Autonomy support continued to reveal no differences, $t(95) = -1.120, p = .266$, between male and female groups.

Regarding college behavior variables, results continued to show no significant differences between males and females. GPA showed no difference regarding gender, $t(101) = -.867, p =$

.388, nor did hours studied, $t(107) = -1.245, p = .216$. Party behaviors continued to display no significant differences between gender: days partied, $t(109) = -.597, p = .552$, and days of substance use, $t(109) = .737, p = .462$, both showed no differences.

No significant differences were found between these two gender groups and any of the Baumrind parenting styles, autonomy support, or either of the two helicopter parenting measures. College behavior variables of academic achievement and party behaviors continued to show no significant differences. Therefore, we combined the two groups for the subsequent analyses.

Birth order and parenting

Correlational analyses were the most useful analyses for results in the current study. We computed the correlation between birth order and Baumrind parenting styles to test the hypothesis that birth order would predict parenting style, specifically that firstborn children would be more likely to experience authoritarian parenting, while later borns would experience more authoritative parenting. This hypothesis was not supported: birth order was not significantly correlated with any of the three conventional parenting styles (Baumrind, 1971) (see Table 3). However, as expected, birth order was negatively correlated with both measures of helicopter parenting, suggesting that as birth order increases (later born children), helicopter parenting decreases. This correlation was found in both measures of helicopter parenting: for the LeMoyne & Buchanan (2011) questionnaire, it was $r(104) = -.22, p = .026$, and for the Schiffrin et al. (2014) questionnaire, it was found to be $r(101) = -.22, p = .027$. Unexpectedly, birth order also negatively correlated with autonomy support, $r(101) = -.20, p = .041$, such that as birth order increases, autonomy support decreases.

We performed independent sample t-tests to confirm the non significant findings between birth order and Baumrind's (1971) parenting style, and the analyses showed the same results. For these analyses, we divided birth order into two groups: first (firstborn children and only children) and later (all other birth orders). Authoritative parenting did not differ as a function of birth order, $t(108) = .854, p = .395$, displaying equivalence in the first group ($M=3.51, SD=.70$) and second group ($M=3.39, SD=.86$). Authoritarian parenting showed the same results, $t(103.96) = .681, p = .497$, for first ($M=2.98, SD=.80$) versus second ($M=2.86, SD=1.01$). Permissive parenting was also found to be non significant, $t(108) = -1.245, p = .241$, with no differences between first ($M=2.55, SD=.60$) and later born groups ($M=2.70, SD=.69$).

To explore further the relationship between birth order and helicopter parenting, we conducted a multivariate t-test using the two birth order groups mentioned above (first (firstborn and only children) and later born). A multivariate t-test was utilized because the two helicopter parenting measures are strongly positively correlated ($r = .66, p < .001$). The multivariate F was not significant, $F(2,100) = .57, p > .05$, such that the two birth order groups did not differ significantly regarding helicopter parenting. However, in an independent samples t-test, autonomy support did differ as a function of these birth order groups, $t(89.056) = 2.008, p = .048$, such that the first group (firstborns and only children) experienced more autonomy support ($M=6.06, SD=.75$) than the later born group ($M=5.68, SD=1.13$). The effect size was large, with a Cohen's D of 0.96.

Parenting styles and helicopter parenting

In regards to helicopter parenting and Baumrind's styles of parenting, we hypothesized that permissive parenting would negatively correlate with helicopter parenting. This was

supported by the data, which showed that permissive parenting was negatively correlated with both the LeMoyne & Buchanan (2011) measure of helicopter parenting, $r(106) = -.48, p < .001$, and the Schiffrin et al. (2014) measure, $r(103) = -.38, p < .001$. We also hypothesized that authoritarian and authoritative parenting would both be positively associated with helicopter parenting, because of the high levels of control present in all three. Authoritarian parenting was, as expected, positively correlated with helicopter parenting with correlations of $r(106) = .63, p < .001$ (LeMoyne & Buchanan, 2011) and $r(103) = .47, p < .001$ (Schiffrin et al., 2014), indicating that as authoritarian parenting increased, helicopter parenting increased. However, authoritative parenting did not follow our hypothesis: it was found to negatively correlate with the LeMoyne & Buchanan questionnaire, $r(106) = -.36, p < .001$ and the Schiffrin et al. questionnaire, $r(103) = -.29, p = .003$. This finding shows that as authoritative parenting increased, helicopter parenting decreased.

Well-being

Correlations involving well-being showed many significant results. Well-being correlated with all three Baumrind parenting styles: authoritarian $r(103) = -.47, p < .001$, authoritative $r(103) = .48, p < .001$, and permissive $r(103) = .34, p < .001$. This supported the hypothesis that authoritarian parenting would negatively correlate with well-being, while authoritative parenting would predict a positive well-being outcome. Well-being was also, as hypothesized, negatively correlated with the LeMoyne & Buchanan (2011) helicopter parenting questionnaire, $r(103) = -.53, p < .001$, and the Schiffrin et al. (2014) helicopter parenting measure, $r(103) = -.36, p < .001$, although it showed a positive association of $r(103) = .38, p < .001$ with autonomy support. This shows that as autonomy support increased, well-being increased, but as helicopter parenting

increased, well-being decreased. Well-being, contrary to stated hypotheses, did not correlate with birth order or any of the college behavior variables (days partying, hours studying, GPA, days of substance use - see Table 3).

College behavior variables

The college behavior variables yielded fewer results than hypothesized. However, one important result showed that, as hypothesized, birth order was positively correlated with partying behavior, $r(114) = .23, p = .012$, such that later borns will spend more days per week partying than firstborns. We also found that parenting style was associated with academic success by a $r(102) = -.25, p = .011$ correlation: children who perceived higher levels of authoritarian parenting had lower GPAs than those who did not. This indirectly supports our hypothesis that authoritative parenting would yield higher academic success than authoritarian parenting, but authoritative and permissive parenting were not significantly correlated with GPA or hours studied per week, which does not support the hypothesis that authoritative parenting would correlate with the highest levels of academic achievement (see Table 3). We also found support for the hypothesis that academic success and partying would be negatively correlated: a $r(107) = -.24, p = .013$ correlation was found, suggesting that academic success decreased as partying behaviors increased. However, no support was found for the hypotheses that birth order would predict academic success or well-being (see Table 3).

Discussion

The purpose of this study was to assess whether birth order is associated with parenting styles with the inclusion of helicopter parenting, and whether that predicts other outcomes for college students, such as academic performance and party habits. Participants enrolled in undergraduate studies at Union College filled out a questionnaire including measures for parenting style, wellbeing, and helicopter parenting, as well as birth order and other demographics.

I hypothesized that birth order would be associated with parenting style, such that firstborn children would report experiencing more authoritarian parenting than later born children, but this hypothesis was not supported by the data. It was also expected that helicopter parenting would show a similar relationship, with higher levels of helicopter parenting with firstborn rather than later born children, which was supported by the results of the current study. Firstborns were hypothesized to report higher levels of academic achievement and lower levels of well-being than other children, both of which were unsupported by the results. However, firstborns were also expected to display fewer party behaviors, and this correlation was found. I also hypothesized that authoritative parenting would yield the greatest academic achievement (which was somewhat supported) and highest well-being scores (which was found to be strongly supported) compared to children who perceived authoritarian or permissive parenting. Helicopter parenting was predicted to correlate with lower levels of well-being in the children, and results supported this prediction. It was predicted that helicopter parenting would also positively correlate with authoritarian and authoritative parenting: authoritarian parenting results supported this, while authoritative parenting results refuted this hypothesis. Helicopter parenting was expected to be negatively correlated with permissive parenting, which was found in the study.

Some of the hypotheses surrounding birth order were supported by this study, while others were not. Birth order showed no association to any of Baumrind's (1971) three parenting styles (authoritarian, authoritative, and permissive), which was unexpected. These non-significant findings are in contrast to previous literature, which has supported an association between birth order and parenting style (Stansbury & Coll, 1998; Sputa & Paulson, 1995). This could be due to the procedure of the study: regarding Baumrind's (1971) parenting styles, participants were asked to think back upon their childhood and respond to statements based on their recollection of the parenting they experienced. The role of memory in this process may contribute to the lack of results found. Accepted by the scientific community is the fact that memory is notoriously unreliable: memory distorts perception, acts as a reconstruction rather than a record by filling in gaps in memory, and memory is blurred (i.e., not as clear or precise as current experiences and events) (Green, 2013). It is likely that utilizing memory to rate their parenting experiences during childhood may have resulted in less accurate results than if they were responding to current experiences of parenting.

However, there was a significant finding regarding birth order and helicopter parenting, such that as birth order increased, helicopter parenting decreased. This was coupled with the finding that as birth order increased, autonomy support also decreased. These findings suggest that helicopter parenting and autonomy support are not mutually exclusive, which is unexpected: since helicopter parenting is defined as being overbearing and over involved in a child's life, it could be assumed that autonomy support would be the opposite of helicopter parenting. However, the data as described above show that helicopter parenting and autonomy support do not function as opposites: both show similar patterns in regards to birth order. This could possibly be because as parents have more children, they pay less attention to their later-born

children overall: they have to split attention between multiple children, and they may not be as excited about parenting as they once were. Therefore, hypothetically, they would be performing less helicopter parenting and less autonomy support, because they would be less involved in general with their later born children.

This finding may also be explained through a finding from previous research suggesting that later born children are more open to experience (Johson, 2014). This brings in other factors for consideration: it is important to recognize that it may not be birth order specifically that predicts more helicopter parenting and autonomy granting, but possibly could be personality differences within birth order that promotes these behaviors in parents. If later borns are more open to experience, and possibly more extroverted by association, they may not need as much autonomy support, because they are already autonomous. More research is needed to explore possible factors that could contribute to the change in both helicopter parenting and autonomy support from firstborn to later born children.

These results regarding helicopter parenting, autonomy support, and birth order should be considered within the context of the well-being findings of the current study when considering practical implications for parents. Results showed that well-being increased both with lower levels of helicopter parenting and with higher levels of autonomy support. Considering this in regards to the findings related to birth order, helicopter parenting, and autonomy support, it may be important for parents to consider their behaviors in relation to the birth order of their children, so as to best promote well-being. Parents may need to be more mindful and purposeful with their behaviors of autonomy support and helicopter parenting within the context of birth order, so as to practice fewer helicopter parenting behaviors for firstborns, and more autonomy support for later borns.

Contrary to my hypothesis, results of this study also showed that birth order did not predict academic achievement or well-being. Previous literature regarding the topic of birth order and academic achievement is unclear: some literature supports an association (Hotz & Pantano, 2015; Nuttall et al., 1976; Ogletree, 1980; Theroux, 1993), while some found no significant correlation (Farley, 1967; Lemay, 1970; Reyes-Baybay, 2018). The lack of results regarding academic success could be attributed to the sample: range of scores may be restricted to the higher end of the range because all participants are enrolled at a competitive private college and therefore meet certain standards of academic achievement. Also, it may be assumed that students with higher academic success would be more willing and more likely to participate in a non-mandatory academic study. This explanation may be in line with past research that found no significant results. Each study cited (Farley, 1967; Lemay, 1970; Reyes-Baybay, 2018) with a lack of results regarding birth order and academic success utilized college students and measures of success in college (versus the use of high school students in studies with more findings). The lack of results of these studies, in conjunction with the current study, may support the explanation that academic scores may be restricted to the higher portion of the spectrum in enrolled college students: if a student is enrolled in college, they have met some level of academic achievement, regardless of birth order. More research should be conducted in order to explore this possible relationship further, perhaps with a focus on high school versus college students.

It was also found that birth order correlated with party habits: as birth order increased, days of partying also increased, as hypothesized. This could be indirectly supported by previous literature which suggests that later borns are more open to experience (Johson, 2014). Openness

to experience may lead children to partake in more party behaviors, such as ingesting substances or attending parties, than children who are not open to these experiences would participate in.

Predictions were made surrounding the relationship between Baumrind's (1971) three styles of parenting and helicopter parenting. It was hypothesized that authoritarian and authoritative parenting would both correlate with helicopter parenting, due to their high levels of control. This was partially supported: authoritarian parenting was shown to strongly correlate with helicopter parenting, probably because of the high control as hypothesized. However, authoritative parenting did not show the expected relationship. It is probable that this hypothesis was simply incorrect, and mistakenly associated two different types of control. Authoritative parenting is characterized by high control but promotes independence and self-efficacy, as supported by the positive correlation with autonomy support, while helicopter parenting does not develop those things. This lack of independence support may be the difference that causes authoritative parenting and helicopter parenting to negatively correlate. Permissive parenting was, as hypothesized, found to have a strong negative correlation with helicopter parenting: as permissive parenting increases, helicopter parenting decreases. This is logical, seeing that permissive parenting has a low level of control while helicopter parenting utilizes high control over children. The two helicopter parenting questionnaires were positively correlated, suggesting that their measures of helicopter parenting were highly similar.

Other hypotheses regarding parenting and academic achievement were also tested in this study. The hypothesis regarding authoritative parenting predicting the highest level of academic achievement when compared to authoritarian and permissive parenting was unsupported: results showed no relationship between authoritative parenting and academic achievement. However, consistent with my hypothesis, authoritarian parenting negatively correlated with academic

achievement via GPA. This is somewhat in contrast to previous literature, which consistently found that authoritative parenting supported academic success (Arrepatamannil, 2010; Garg et al., 2005; Hayek et al., 2022; Steinberg et al., 1989; Steinberg et al., 1992). The difference in results regarding academic success could again be attributed to the sample, due to the high-achieving population and the likelihood that academically successful students may be more likely to participate in academic research.

The other hypotheses regarding parenting (that authoritative parenting would predict higher well-being and helicopter parenting and authoritarian parenting would predict lower levels of well-being) were all supported, which was in line with previous literature (Darlow et al., 2017; Luebke et al., 2016; Rote et al., 2020; Schiffrin et al., 2013; Schiffrin et al., 2019). Autonomy support was also found to predict higher well-being. This suggests that well-being for children may be predicted by independence-granting or support of independence. Authoritative parenting and autonomy support encourage children to build independence, while helicopter parenting encourages the opposite by being over controlling and over involved in a child's life. It has also been previously suggested that without independence support from parents, children do not learn major life skills (because their parents 'take care of' everything, so children have no opportunity to learn (Wieland & Kucirka, 2020)). Therefore, this lack of independence could lead to lack of knowledge on how to take care of oneself, including cleaning, cooking or eating nutritionally, managing interpersonal relationships, coping skills, self-advocacy, etc, all of which are important to building mental and physical well-being (Wieland & Kucirka, 2020). These findings regarding well-being may support a hypothesis that independence-granting could mediate well-being for children. They also provide practical implications: parents looking to promote well-being for their children can either make changes or otherwise avoid authoritarian

and helicopter parenting practices, while practicing authoritative parenting and autonomy support. More research is needed to discern the factors that contribute to these differences, and whether supporting independence is indeed a mediating factor.

While stated above previously that helicopter parenting and autonomy support do not function as opposites in regards to birth order, they do show opposite correlations in regards to well-being, as shown above: autonomy support is positively associated (correlating with more well-being), while helicopter parenting is negatively associated (correlating with less well-being). This suggests that while they are not opposites regarding implementation (i.e; they can be employed (or not employed) by parents at the same time), they predict different outcomes, which indicates potentially opposite impacts.

There are several limitations to this study that should be considered when evaluating this research. One limitation to the study is the sample, which is predominantly white and female. The lack of racial and gender diversity could have implications for the results. As seen in previous literature, females have been reported to have higher academic achievement than males (Dornbush et al., 1987; Paulson, 1994; Gang et al., 2005). The large sample of females may reduce generalizability, since a study with a more even distribution of male participants may produce different results. A lack of racial and ethnic diversity can also have effects on the results. Previous literature has shown that Baumrind's parenting styles have different effects based on the cultural context: for example, authoritative parenting yields positive outcomes in Western society, but authoritarian parenting predicts more positive academic outcomes in Asian societies (Watabe & Hibbard, 2014). The lack of diversity may have promoted results specific to one culture, and are therefore not generalizable. The sample also comes from a private, expensive college. While not always the case, it can be assumed that the general population of the school

comes from a medium or high socioeconomic status. This could have an influence on the research, as it has been previously seen that higher family socioeconomic status predicts higher levels of school achievement (Areepattamannil, 2010). Also in regards to the sample, as mentioned previously, it is possible that participants coming from a competitive, private institution may have affected the results: acceptance into and attendance at this institution denotes a high level of academic achievement that may have skewed the data regarding this variable. The mean GPA for this sample was 3.47, a fairly high average.

Other limitations are more focused on the method of the study. Within the current structure of the questionnaire, it may have been useful to ask participants to indicate what parent (mother, father, other) they were basing their responses on, since they were asked to respond with only one parent in mind. This may have provided some more nuanced results regarding parenting styles and how they relate to the gender of the parent. However, another limitation of the study could be this specification for participants to think of only one parent. Focusing on one parent, even though it was specified to be the parent most involved with child discipline, misses the influence of the second parent or caregiver, if one was present. Separate parents parent differently, even within couples, and those differences could be mitigating the effects of the research. The second parent or caregiver is an important influence on this research that was not included in the current study. It could therefore be said that the study does not account for the multiple parental influences that a child may experience. Also regarding methods, as previously mentioned in the discussion of the birth order and parenting styles results, the reliance on the memory of participants as a measure for parenting style likely limited the results of the study. Relying on memory allows for misremembered or otherwise unfactual information to possibly skew findings. The use of information from the present would be much more reliable.

A final limitation may be in regards to the analysis of the birth order data. For certain analyses, when looking specifically at first-versus-later born children, the responses were grouped into two: firstborns (only children and firstborns) and later borns (second born and up). Grouping these birth orders together may have reduced the ability to identify results within these more specific groups by reducing variability in birth order (by condensing a variety of birth orders into two groups). This may explain why a significant difference was found in the correlational analyses between birth order and helicopter parenting, but that difference was not found in the multivariate t-test for the same variables of birth order and helicopter parenting.

Many findings from this study lend themselves to future research. The relationship between helicopter parenting, autonomy support, and birth order is one topic that requires further research. This unexpected finding needs further exploration to understand some of the factors that contribute to this correlation, as well as possible impacts of this relationship. The findings regarding academic achievement and birth order also warrant further research. The results of this study add to the discrepancies in the findings from past literature regarding this relationship. It is unclear whether or not the correlation between these two variables exists, and future research into this possible relationship, as well as possible factors that could contribute to the fluctuation in findings, would better the general understanding of this topic. It also seems that more research into the relationship between well-being and parenting would be beneficial, especially due to the practical value of this topic. Possible mediating factors, such as support for independence, should be explored.

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Table 1: Means, standard deviations, and confidence intervals for all major variables

	<i>N</i>	<i>M</i>	<i>SD</i>	95% CI	
				LL	UL
Birth Order	116	1.63	1.02	1.44	1.82
Authoritarian	113	2.91	0.91	2.74	3.08
Authoritative	113	3.46	0.788	3.31	3.60
Permissive	113	2.63	0.65	2.51	2.75
HP 1	108	2.71	0.722	2.58	2.85
HP 2	105	2.72	1.17	2.49	2.94
Autonomy Support	105	5.86	0.98	5.67	6.05
Well Being	105	5.13	0.91	4.96	5.31
GPA	109	3.47	0.42	3.39	3.54
Hours Studied	117	18.22	12.48	15.93	20.50
Days partying	119	0.95	0.81	0.80	1.10
Days of substance use	119	1.71	1.96	1.35	2.06

* HP 1 = LeMoyne & Buchanan (2011); HP 2 = Schiffrin et al., 2014.

Table 2: Means and standard deviations of all major variables when data were split by gender

	Males N = 25		Females N = 86	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Birth Order	1.64	.952	1.67	1.00
Authoritarian	3.00	0.86	2.90	0.93
Authoritative	3.59	0.63	3.44	0.80
Permissive	2.60	0.66	2.67	0.64
HP 1	2.88	0.80	2.79	0.54
HP 2	2.71	1.15	2.64	1.19
Autonomy Support	5.65	1.02	5.92	0.98
Well Being	5.01	0.21	5.23	0.86
GPA	3.40	0.53	3.49	0.37
Hours Studied	15.00	9.42	18.48	12.48
Days partying	0.88	0.78	0.99	0.80
Days of substance use	1.96	2.32	1.64	1.78

Table 3: Correlations for all major variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Birth Order	–	.09	-.07	.16	-.22*	-.22*	-.20*	.19	-.08	.08	.23*	.00
2. Authoritarian		–	-.60**	-.66**	.63**	.47**	-.35**	-.47**	-.25 *	.10	-.02	.02
3. Authoritative			–	.46**	-.36**	-.30**	.45**	.48**	.04	-.04	.01	-.12
4. Permissive				–	-.48**	-.38**	.14	.34**	.13	-.04	.14	.00
5. HP 1					–	.66**	-.18	-.53**	-.14	.02	-.08	.00
6. HP 2						–	-.04	-.36**	-.09	-.12	-.04	.01
7. Autonomy Support							–	.38**	-.04	-.09	.18	.10
8. Well Being								–	.13	-.06	.16	-.04
9. GPA									–	-.05	-.23*	-.16
10. Hours Studied										–	-.02	.02
11. Days partying											–	.50**
12. Days of substance use												–

* HP 1 = LeMoyne & Buchanan (2011); HP 2 = Schiffrin et al., 2014. * $p < .05$; ** $p < .01$

Appendix A

Informed Consent

My name is Natalie Giordano and I am a senior Psychology student at Union College. I am inviting you to participate in a research study for my senior thesis, in which I am exploring birth order and any possible connection it may have to parenting style.

You will be asked to answer a series of questions about you and your family, especially your parents and their methods of parenting while you were growing up and today. This will take approximately twenty minutes. Please remember that involvement in this study is voluntary, so you may choose to participate or not. You may skip any question that you feel uncomfortable answering. If you no longer wish to participate, you have the right to withdraw from the study, without penalty, at any time. Please be honest in your responses. All information will be kept anonymous and confidential. No responses you provide will be connected with any personal or identifying information.

Although the study will not be fully explained to you initially, a full explanation will be provided at the end of the study, at which time you will have the opportunity to ask questions.

You may participate in this study for out-of-class course credit. If you are not participating in this study for out-of-class credit, you have the opportunity to be entered in a raffle for a \$50 Amazon gift card.

If you have any questions about the research please contact Natalie Giordano at giordann@union.edu, or Prof. Linda Stanhope at stanhopl@union.edu. If you have any questions concerning your rights as a research participant that have not been answered by the investigator or if you wish to report any concerns about the study, you may contact the Union College Human Subjects Review Committee Chair Prof. Joshua Hart (hartj@union.edu) or the Office for Human Research Protections (<https://www.hhs.gov/ohrp/>).

By clicking “Continue”, you are indicating that you understand the information printed above, and that you wish to participate in this research study.

Appendix B

Debrief

Thank you so much for your participation in my senior thesis! Please remember all of your responses are anonymous and will only be used within this research study. In this study, I am exploring the relationship between birth order and parenting styles. I am especially interested in parents who are overly involved in their college-aged children's lives (helicopter parents), whether that differs depending on the birth order of the children, and how it relates to the children's behavior in college. Much of the research in this area focuses on younger children, and I am hoping to better understand the impact parenting styles may have on college-aged children, and how that may relate to birth order.

This study included some references to drug and alcohol use. If you or anyone you know is struggling with substance abuse or addiction, please contact Wicker Wellness (518)388-6120 or The Substance Abuse and Mental Health Services National Helpline at (1800)662-4357 for treatment referral or (1800)487-4889 for informational services.

If you would like to receive out-of-class course credit for your participation in this study, please complete this pre-signed form. If there is any issue with this form, please email giordann@union.edu. If you did not participate in this study for out-of-class course credit, then you are eligible to enter a raffle for a \$50 Amazon gift card. If you would like to be entered in this lottery, please email giordann@union.edu with the subject line "Thesis Gift Card" and your name. No other information is necessary, and this will in no way be connected to your responses to this questionnaire.

If you have any further questions about this project or your participation, please feel free to contact Natalie Giordano at giordann@union.edu. Thank you!