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The Role of Discrepancies in Parent and Youth Reporting of Parental Monitoring on
Anxiety Symptoms in Early Adolescence

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ABSTRACT

Parental control has been associated with an increased risk for externalizing and internalizing symptoms in adolescence. For example, higher levels of parental monitoring are associated with externalizing behaviors in children (Pettit et al, 2003) and adolescent's anxiety symptoms (Hamza & Willoughby, 2011). The goal of this study is to explore the role of teen-parent discrepancy in parental monitoring and how the overall amount of monitoring is associated with adolescent's anxiety symptoms.

Participants are drawn from two longitudinal studies of adolescent anxiety development, BETA and TEENS studies. To date, we have collected data on 91 teens (approximately 50% female, Mage = 13.5). This study will use questionnaires from parents and adolescents to measure each construct of parental monitoring reported by both parent and youth and youth anxiety symptoms. To get an understanding of parent-teen discrepancy, the questionnaires of the parent and the adolescent were compared by calculating difference scores.

I hypothesized three different ideas in this thesis: (1) Adolescents' anxiety symptoms will be associated with higher level of parental monitoring. (2) Higher discrepancy between mothers and teens report of monitoring will predict higher number of anxiety symptoms; (3) Higher discrepancy between mother and teens reporting of anxiety symptoms will be associated with higher discrepancy in monitoring. While none of these hypotheses were supported, we found other findings that are significant to maternal monitoring and child anxiety.

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Chapter 1

Literature Review

Effective parenting is essential to a child's successful development and growth. The importance of parenting continues throughout adolescence, even when the impact of other social factors emerges. Parenting practices vary culturally and individually. Parenting is influenced not just by the parents themselves but by many different factors, including genetic endowment, communities, peers, and environment. Bronfenbrenner's ecological model shows that the lives of parents and their children are completely intertwined, which makes it important that parents understand how much influence they have over children (Luster & Okagaki, 2008).

Bronfenbrenner's ecological model demonstrates how child development can be influenced by different factors and people. A child's experience from birth to adulthood is shaped by their environment at multiple levels, which include the family, the peer group, the social community, and the government (Steinberg et al., 1995). This thesis is interested in the first level of the ecological model, the microsystem, which includes parenting. The microsystem describes how the individual, the child, interacts with the environment around them, including their parents. Because parents can have such a significant impact on their child's development, parental internalizing symptoms can also affect a child's development. With the interaction of the microsystem, parental symptoms and anxieties can affect their parenting, and therefore, a child's outcome.

Anxiety problems are the most common and prevalent psychiatric disorders. Anxiety disorders can appear at a young age and continue throughout adulthood (Fisak et al., 2011).

There is no cure for anxiety, but there are ways to help decrease anxiety symptoms. Anxiety disorders can have a negative impact on a person's life, academically, socially, or internally. While anxiety disorders tend to be genetic and cannot be entirely prevented, there are ways to mitigate the detrimental effects that come with anxiety. Effective parenting, parental monitoring, parental knowledge, and adolescent disclosure are concepts that may impact an adolescent struggling with anxiety.

Parental monitoring, such as tracking and surveillance, includes knowing aspects of a child's life like where the child is and who they spend their time with which is an essential part of parenting in adolescence. Parental monitoring is important because it affects how a child behaves and develops into adulthood, specifically with whether they develop internalizing symptoms. An example of parental monitoring is a parent knowing who their child's friends are and where they are when they leave the house (Lionetti et al., 2018). Parental monitoring can be an effective way to decrease anxiety symptoms by proper communication and disclosure, but it can also increase anxiety symptoms if the parent is overprotective and controlling (Statin & Kerr, 2000). Furthermore, parental monitoring can be an effective way to decrease or increase anxiety symptoms for children.

When children are young, parental monitoring might involve preventing a child from physical harm and as children develop, so does parental monitoring; this parenting practice does not stop at childhood but evolves over time (Marceau et al., 2020). Parenting for younger children is more direct with constant supervision and control, while parenting for adolescents is more indirect and done from a distance with less supervision and control but more rules and parental knowledge (Crouter & Head, 2008). Although there is research on parental monitoring for children, less is known as to how monitoring affects adolescents and their anxiety.

Parental monitoring, mostly focused on mothers in the literature, has been shown to predict child outcomes. Supplee and colleagues (2007) found that maternal monitoring was a protective factor for children developing externalizing behaviors such that higher monitoring was associated with less externalizing symptoms (Supplee et al, 2007). Monitoring also has been associated with internalizing outcomes in adolescents. For instance, Villarreal and Nelson (2018) found that lower maternal monitoring was associated with increased internalizing symptoms in adolescent girls but not boys. In addition, girls who had higher internalizing symptoms and whose mothers engaged in less monitoring had more externalizing behaviors (Villarreal & Nelson, 2018). This shows that monitoring can have a significant impact on the development of adolescents, especially girls. While parental monitoring affects male and female adolescents differently, there is evidence that parental monitoring is a protective factor for all adolescents in regard to externalizing behaviors. These two studies demonstrate that parental monitoring can be an effective parenting behavior in the development of internalizing and externalizing behaviors for adolescents.

In contrast, there are parenting behaviors related to parental monitoring that indicate high parental control over a child's behavior. Parental control is defined as how much parents know about their child and their use of behavioral regulation through monitoring and supervision as well as psychological control. Pettit and colleagues (2003) examined monitoring and psychological control. Psychological control in this study is defined as: parents attempt to control that inhibits a child's development of independence, therefore making the child emotionally reliant on the parent. Pettit's study showed that higher levels of psychological control were associated with more delinquent problems for adolescents. This study looked solely at mothers and their teenagers. While maternal monitoring was perceived as being positive for adolescent

development, psychological control was considered more negative. For adolescents whose mothers exhibited more psychological control over their adolescents, there were more delinquent problems and more externalizing factors, like anxiety and depression, for those adolescents. (Pettit et al., 2003). Thus, although the construct of parental monitoring overlaps somewhat with psychological control, this study demonstrates that these behaviors have different outcomes for adolescence. That is, this work suggests protective effects for knowing about what your child is doing

Although beyond the scope of my thesis, there are factors that contribute to parental control and may increase monitoring behavior. For instance, parental anxiety is related to parenting behaviors that often increase anxiety risk in children. For instance, it has been found that maternal anxiety can increase a mother's tendency to exhibit overprotective parenting which increases child fearful behaviors and anxiety symptoms. Parents and children can have a mutually reinforcing parent-child dynamic (Vasey & Dadds, 2001). Research from our lab has shown that when a child has a specific fear, they look for support from their parent to relieve distress which can then reinforce the parent's overprotective behaviors (Buss et al., 2020). Buss's study shows that the internalizing symptoms of parents can affect the internalizing factors of a child. It has been found that mothers of children with anxiety tend to show higher levels of control and monitoring when compared to parents of non-anxious children (Berg-Nielson et al., 2002). This shows that maternal monitoring can vary depending on characteristics of the child.

Although the literature shows fairly consistent relations between maternal monitoring and adolescent outcomes, it is important to consider who is reporting on the monitoring behavior. For instance, the mother might consider her parenting as monitoring while the adolescent might view the monitoring as more controlling. My thesis research will look at discrepancies: the difference

between maternal reports and adolescent reports of anxiety and monitoring these discrepancies can be important in determining how the mother and adolescent perceives monitoring behavior as supportive or controlling.

Adolescent disclosure has also been found to be important for healthy outcomes for a child. Adolescent disclosure includes parental knowledge of a child's life, the adolescent sharing spontaneous information without the parent having to ask. Hamza and Willoughby (2011) found a bidirectional association between parental knowledge, adolescent disclosure, and parental monitoring. Specifically, higher adolescent disclosure and parental control predicted lower adolescent depressive symptoms, while higher adolescent depressive symptoms predicted lower parental knowledge, and therefore, lower adolescent disclosure and parental solicitation (Hamza & Willoughby, 2011). Hamza and Yan (2011 & 2020) studied the importance of how adolescent disclosure can affect a parent and child's relationship, whether it is healthy and stable or not. A parent can have knowledge about a child's life without the child actually wanting the parent to know. A parent forcing a child to disclose information can be a form of psychological control, showing that forced knowledge can contribute to negative outcomes for an adolescent. Yan and Zhang (2020) found a strong positive correlation between parental psychological control and adolescent problem behaviors (Yan et al., 2020). Both studies showed how critical adolescent disclosure is to a healthy relationship between a parent and a child.

Discrepancy occurs when a parent reports higher levels of knowledge about their child than the child reports. Reynolds and colleagues found that the type of discrepancy is relevant when it comes to risk factors for a child. Specifically, if a child reports higher levels of parental knowledge than the parent, it is not associated with larger risk behaviors; the problem comes when the parent reports high levels of parental knowledge while the child reports low levels

(Reynolds et al., 2011). These discrepancies can help show how much a child is letting their parent in, illustrating how well parents and youth are communicating with one another. Parents might have an altered perception of what their child is actually doing so a measurement of discrepancy is a good way to figure out how much a parent actually knows. Hamza and Yan's (2011 & 2020) studies show how parental influence and control should not be forced onto a child. Instead, a parent should work towards building a mutually disclosing relationship with a child. This is why it is essential to look at the discrepancies between a mother and an adolescent: to try and figure out a mother's relationship with their adolescent and see if there are discrepancies between the monitoring and controlling aspects of their relationship.

Many studies use parent and youth reports to measure symptoms because they are easy to administer and score. Wei and his colleagues found that having both a parent and a child fill out a report in regard to the child's anxiety, improved the accuracy of the diagnosis; parent reports were concluded to be valuable in predicting anxiety symptoms (Wei et al., 2014). Wei's research shows how important a parent's input is with a child's mental health. Rusby and his colleagues found that having both adolescent and parent reports contributed uniquely to the adolescent's overall self, which gave a greater picture of an adolescent's changes and development (Rusby et al., 2018). Finally, Abar and her colleagues found that the greater discrepancy between parent and adolescent reports, the more alcohol use. To be more precise, the greater difference between the parent reports and the adolescent reports showed a larger disconnect between externalizing behaviors. (Abar et al., 2014). This study found the importance of adolescent and parent reports can show real problems with adolescents.

Chapter 2

Current Study

Many of the previously published studies focus on parental monitoring and children's anxiety symptoms. However, there are fewer studies that look at how adolescent-reported monitoring is associated with anxiety symptoms. There are also even fewer studies that examine the discrepancy between parent reports and adolescent reports of parental monitoring and adolescent anxiety. The following three hypotheses were tested. Hypothesis 1. Adolescents' anxiety symptoms will be associated with a higher level of parental monitoring. We expect to see this finding with parent and adolescent reports. Hypothesis 2. Higher discrepancy scores between the mother and teen reports of monitoring will predict a higher number of anxiety symptoms. Hypothesis 3. Higher Discrepancy between mother and teens reporting of anxiety symptoms will be associated with higher discrepancy in monitoring.

Chapter 3

Methods

Participants

Participants were drawn from two longitudinal studies of temperament and anxiety development: BETA and TEENS. Study one, TEENS, is an ongoing longitudinal study of adolescent anxiety symptoms from early to middle adolescents. We are using data from wave 1 of this study (Mage = 14.43; 49.5% female). Study two, BETA, includes the adolescent following up of a longitudinal study of fearful temperament (TIKES-BETA study; Buss et al., 2018; Buss et al., 2020) (Mage = 12.96; $SD_{age} = .73$, 42.6% female). The total combined sample for this thesis included 91 adolescents and their mothers.

The participants from the BETA study were children and their mothers recruited for a larger longitudinal study through recorded local birth announcements and then followed up with 11 years later as the children reached adolescence. The participants from the TEENS study were recruited and assessed from two sites and surrounding communities: State College, PA and Harrisburg, PA. Participants were recruited in part from a previous study (approx. 25% of the sample) and the remaining participants were recruited through advertisements in Penn State's Study Finder and Facebook and through FIRsT Families Database and community outreach recruiting. Participants were compensated for participating in the questionnaire survey assessment.

The majority of the TEENS mother's that was used was middle to upper-class (3.3% = \$16,000-20,000; 2.2% = \$21,000-30,000; 8.8% = \$31,000-40,000; 8.8% = 41,000-50,000; 5.5% = 51,000-60,000; and 58.2% = above \$60,00), college-educated (2.2% = some high school education; 19.8% = some college or technique school; 23.1% = college graduate; 24.2% = graduate training) and largely White (87.9% White, 5.5% African American, 4.4% Hispanic, 3.3% Asian-American, 2.2% American Indian or Alaskan Native, and 2.2% Native Hawaiian or Pacific Islander). At this point, 95% of the children had siblings (44% had at least one sibling).

A subset of this BETA sample completed a number of follow-up surveys approximately 11 years later as the children reached adolescence ($N = 61$, $M_{age} = 12.96$ years, $SD_{age} = .73$, 42.6% female) that was combined with the TEENS data for this study. The sample was a low-risk, community sample from a large, midwestern university town ($N = 61$, $M_{age} = 12.96$ years, $SD_{age} = .73$, 42.6% female). Family demographics of the subsample remained largely consistent. The majority of the sample remained middle to upper-middle class (3.1% = \$21,000 – 30,000; 1.5% = \$31,000 – 40,000; 4.6% = \$41,000 – 50,000; 1.5% = \$51,000 – 60,000; 86.2% = above \$61,000); college educated (6.2% = high school education; 12.3% = some college or technical education; 24.6% = college graduate; 52.3% = graduate training); and largely White (91.8% White, 4.9% African-American, 1.6% Hispanic, and 1.6% South American Indian). At this follow-up time point, 95% of the children had siblings ($M_{siblings} = 3.79$, $SD_{siblings} = 4$, range = 2-6).

Procedures

The data used for this thesis were pulled from a large multi-method battery of assessments. Adolescents and their parents completed a large survey, either in person or online, that assessed a variety of social, emotional and behavioral constructs. Adolescents completed questionnaires to measure anxiety and parental monitoring while parents completed studies on their adolescent's anxiety symptoms and their own monitoring as a parent.

Measures

Parental Monitoring Questionnaire. The Parental Monitoring Questionnaire (PMQ) is a survey that is used to measure how much a parent knows about their child's life and activities (PMQ; Kerr & Stattin, 2000). The 24-item question questionnaire consists of questions about the child's life, the child's free time, the child's friends, and their social and school life (e.g. "Do you know what the child does in their free time?"). The answers from the PMQ were then scored on a

scale from 1 (*almost always*) to 6 (*almost never*). Total score was calculated and reversed so that higher scores indicated higher parental monitoring.

Child and Maternal Monitoring. The Child Monitoring questionnaire (CMO) is used to measure how adolescents view their parents' monitoring (CMO; Hetherington & Clingempeel, 1992). The Child and Maternal Monitoring Questionnaire consists of thirty questions that tests for knowledge, influence, control, and effectiveness in controlling (e.g. your choice of friends, your leisure activities). The questionnaire is based on a five-point scale ranging from 1 (*very little*) to 5 (*very much*). Higher total scores reflected higher youth-reported parental monitoring.

Anxiety Symptoms

Youth Reported Anxiety. Anxiety was measured using the Screener for Child Anxiety Related Disorders questionnaire (SCARED) (Birmaher et al. 1995). The SCARED assesses for Anxiety Disorder, Panic Disorder, Generalized Anxiety Disorder, Separation Anxiety, Social Anxiety, and Significant School Avoidance. The adolescent completed the questionnaire based on their own feelings. The Screen for Child Anxiety-Related Disorders (SCARED) is a 41-item questionnaire that assesses an adolescent's anxiety symptoms (e.g., when I feel frightened, it's hard to breath, I am nervous, I am scared to go to school). The adolescents completing the questionnaires had three items to pick from ranging from 0 (*Not true or hardly ever true*) to 2 (*very true or often true*). The total sum of each question was used to determine anxiety symptoms of the adolescent.

Parent-Report of Child Anxiety. Parents completed the SCARED in order to assess their adolescent's anxiety symptoms (e.g. My child is nervous, my child follows me where I go, my child is scared to go to school). Similarly, to when the adolescent completed the SCARED, the parents had three items to pick from ranging from 0 (*Not true or hardly ever true*) to 2 (*very*

true or often true). The total sum of each question was used to determine how a parent viewed their adolescent's anxiety symptoms.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Before the analyses, data from the BETA study was merged with data from the TEENS study by connected questions from each study to make a merged data set. Next, descriptive statistics and correlations were run to examine bivariate associations between the variables. Correlations were run between the SCARED total scores and the monitoring total scores.

Youth and Parent Discrepancy Scores. Discrepancies between anxiety and monitoring were calculated by taking a difference score between the mother's total score and the adolescent's total score. Anxiety discrepancy was calculated by subtracting maternal SCARED total score from the Child SCARED total score. Because the PMQ and CMO had different total scores, we first created a proportional score to align the scores across instruments. The PMQ score was divided by 120 (total score) and CMO was divided by 150 (total score). Once the monitoring scores were on the same scale, parent-reported monitoring was subtracted from child-reported monitoring.

Chapter 4

Results

Data screening and descriptive statistics. There was no evidence of significant skew or kurtosis. Descriptive statistics and correlations for all of the variables are presented in Table 1. Mothers reported more anxiety than youth did (Table 1). The mean for the mother's reports of their child's anxiety was higher than the child's report of their own anxiety. Once we accounted for total scores, mother and child report of monitoring did not differ (Table 2).

Turning to the discrepancy scores, we note that mothers consistently reported higher levels of anxiety compared to child self-report (see Figure 1). In contrast, the distribution of the monitoring discrepancy revealed that approximately half of the time the child reported higher monitoring while in other cases, the mother reported more monitoring.

We also explored sex differences and found that girl self-reported more anxiety symptoms than boys, $F(1,78) = 11.98, p = .001$. However, this difference was not true of parent reported anxiety, nor did we find differences in monitoring. Subsequent analyses control for child sex.

Once the discrepancies were calculated, the SCARED discrepancy scores and the monitoring scores were recoded into different variables and were transformed into groups of high discrepancy and low discrepancy. For the SCARED discrepancy groups, the high groups were between -30 and below while the low groups ranged from -29 to 0. With the monitoring groups, the groups were split on 0. Anything above 0 was coded as a high discrepancy and anything below 0 was coded as low discrepancy. The discrepancy results are shown in Figures 1 and 2.

Table 3 shows the correlations between anxiety symptoms and monitoring. Maternal monitoring and their SCARED reports of their child were negatively correlated. With this, the more monitoring that a parent reported, the less anxiety that they expected their child to have. No other significant correlations were found.

Finally, although we hypothesized that there would be difference between high and low discrepancy groups, no significant differences were found. Overall, whether the mother and child agreed on monitoring or not, they were reporting the same levels of anxiety and whether the mother and child agreed on anxiety or not, still reporting the same levels of monitoring. There did not seem to be a stable pattern. All of the analyses with the discrepancy groups did not reveal any patterns or findings.

Chapter 5

Discussion

The original hypotheses were: (1) Adolescents' anxiety symptoms will be associated with higher level of parental monitoring. (2) Higher discrepancy between mothers and teens report of monitoring will predict higher number of anxiety symptoms; (3) Higher discrepancy between mother and teens reporting of anxiety symptoms will be associated with higher discrepancy in monitoring. We found mixed support for the hypotheses.

Previous studies have examined the importance of parental monitoring on adolescent outcomes. Supplee (2007) found that maternal monitoring acted as a protective factor for children in developing externalizing behaviors; the more monitoring, the less chance of external behaviors occurring in a child. In terms of internalizing symptoms, Villarreal and Nelson (2018) found that lower maternal monitoring was associated with increased internalizing symptoms, specifically in adolescent girls, showing the importance of monitoring. This current study examined how monitoring affected an adolescent's anxiety and how discrepancies between maternal and child reports differed.

Our main study hypothesis that large discrepancies in report of monitoring would be associated with more anxiety symptoms. Analysis of the SCARED reports of the mother and child resulted in significant findings. Specifically, it was found that mother's always report that their child has higher anxiety scores than their child reports. When looking through all 77 cases, not one child reported a higher SCARED score than their mother; the mother always reported that their child had a higher amount of anxiety. This is an interesting finding because between 77 different mothers and children, every single mother and child had the same pattern of higher recording of anxiety for mothers.

This finding is important because it shows that there is a significant trend that mothers are constantly reporting more anxiety than their child. This finding is inconsistent with Engel's findings that the parent and child's perception of anxiety did not differ (Engel et al, 1994). The difference in perceptions could be due to the fact that Engel's study examined children aged 8 to 16 which is a wider range of children than this study. The average age of this study was around 12 to 13 years old while Engel's study average age was around 11 years old. Engel's study had a participant size of 50 while this thesis had a participant size of 77 which could also be a factor in the differences. This study was also conducted 27 years ago. It has been found that children and adolescents are suffering from anxiety and anxiety symptoms more than ever before (Muris & Broeren, 2008). With this, the 27-year difference could be a reason as to why there is a difference in findings.

Maternal monitoring and their maternal SCARED reports were found to have a significant correlation with maternal monitoring and SCARED reports of their child being negatively correlated. This means that the more monitoring that a mother reported, the less anxiety that they expected their child to have. With these results, it seems that mothers believe that their monitoring is a factor that will decrease anxiety symptoms of their child. Multiple previous studies have been conducted on the correlation between monitoring and anxiety levels of a child showing that there is a correlation.

Previous research has suggested that maternal is a protective factor for children and adolescents. For example, Villarreal and Nelson (2018) reported that lower maternal monitoring was associated with increased internalizing symptoms in adolescent girls. This finding could suggest that mothers believe that higher monitoring will lessen anxiety in their children, consistent with our finding that higher maternal-reported monitoring was associated with less

maternal-reported anxiety. However, this was not the case for child reports of anxiety and monitoring scores.

It is important to look at whose reports are considered more accurate. While the SCARED had the same questions for both the mother and the child, the monitoring scales were different between the child and the parent. This could account for the fact that there were no correlations between maternal and child report of monitoring. There are different factors that go into monitoring and some include child disclosure, parental solicitation, and parental control (Stattin & Herr, 2000). While the PMQ looks at these factors specifically when posing questions, the CMO focuses more on knowledge, influence, and control, not parent solicitation. This could account for the differences in responses between the mother and the child. It is also important to consider whether the child knows themselves better or the mother knows their child better when it comes to anxiety symptoms.

There were no significant findings when it came to maternal and child reports of monitoring. With the CMO and PMQ reports, there were no patterns or correlations between mothers and their children's scores. This shows that mother's and child's ideas of monitoring might vary from their child, but it does not have an effect on how a mother or child views their anxiety. While we thought that a larger discrepancy between maternal and child reports of monitoring would result in more anxiety for the child, this hypothesis was not supported by the data.

Future research could consider what is causing an increase in adolescent anxiety. While it is known that girls have more anxiety with the highest anxiety being in adolescents, 13-18 years old, with one in three experiencing an anxiety disorder. Furthermore, the prevalence of anxiety disorders has been on a steady rise since 2007 (McCarthy, 2019). There are many possible

reasons for this increase in anxiety, which might include social media, COVID-19, or higher expectations and pressure. With social media being more prominent than ever before, adolescents are constantly comparing themselves to others, whether it is through body-image or in a social sense and it is causing them more anxiety (Vannucci et al., 2017).

With research showing that girls suffer more from anxiety than boys it is essential to look into this population in order to figure out what accounts for this difference and how to help (Lewinsohn et al., 1998). Because the present study found that monitoring can be a protective factor, it is important to identify how monitoring can be even more effective in preventing internalizing symptoms of adolescents, specifically adolescent girls.

There were a few limitations which can possibly limit the generalizability of this study to a greater population. Because we were working with a low-risk community of mothers and their children, we relied on the reporting of anxiety symptoms and monitoring. There was also a limitation with the reports that were used for monitoring, the PMQ and CMO. Because we had to use different measures for the child reports of their mother's monitoring and the mother's report of their own monitoring, it was harder to get an accurate report and comparison of monitoring symptoms between the two groups.

Future research could examine why there is such heterogeneity between maternal reports of monitoring and anxiety as well as child reports of monitoring and anxiety. While we found that mothers are consistently reporting higher anxiety than their child is reporting, it would be interesting to look at that trend and examine why that is a common pattern. It would also be of interest to examine how heavier monitoring affects an adolescent's anxiety, if at all. Because there are so many different types of parenting and monitoring, there should be future studies

based on identifying those different types of monitoring and which are most effective in preventing internalizing symptoms in adolescents.

Chapter 6

Conclusion and Implications

In conclusion, our results show the importance of maternal monitoring and support previous research that mothers consider monitoring a protective factor to their child's anxiety. Other studies have identified the importance of how monitoring can affect an adolescent's internalizing and externalizing symptoms, but this study was unable to find an association between monitoring and anxiety symptoms between a mother and her child. This study found that (1) mother's always report more anxiety than their child reports, (2) that according to mothers, higher monitoring is associated with less child anxiety, (3) there were no trends or correlations between high and low discrepancies between mothers and their children. These results contribute to the extant literature on understanding the role of parenting practices in relation to child anxiety.

Appendix A

Table 1: Descriptive Statistics of All Variables

Variable	Mean	SD	N	Max	Min
SCARED Child Report	5.00	16.51	80	71.00	5.00
SCARED Parent Report	58.64	14.38	87	107.63	42.00
CMO	100.02	22.49	97	145.00	32.00
PMQ	43.96	8.25	148	74.00	47.00

Note: SCARED = Screen for Child Anxiety Related Emotional Disorders; CMO = Child Monitoring Overprotectiveness; PMQ = Parental Monitoring Questionnaire

Table 2: Descriptive Statistics of Child and Mother Monitoring Reports

Variable	Mean	SD	N	Max	Min
Proportion PMQ Score	.64	.074	87	.78	.38
Proportion CMO Score	.64	.153	36	.87	.27

Table 3: Correlations Between SCARED Reports and Monitoring Reports

Variable	1	2	3	4
	SCARED Child Report	SCARED Parent Report	Proportion PMQ	Proportion CMO
SCARED Child Report	--			
SCARED Parent Report	.25	--		
Proportion PMQ	-.06	-.41*	--	
Proportion CMO	.17	-.05	.14	--

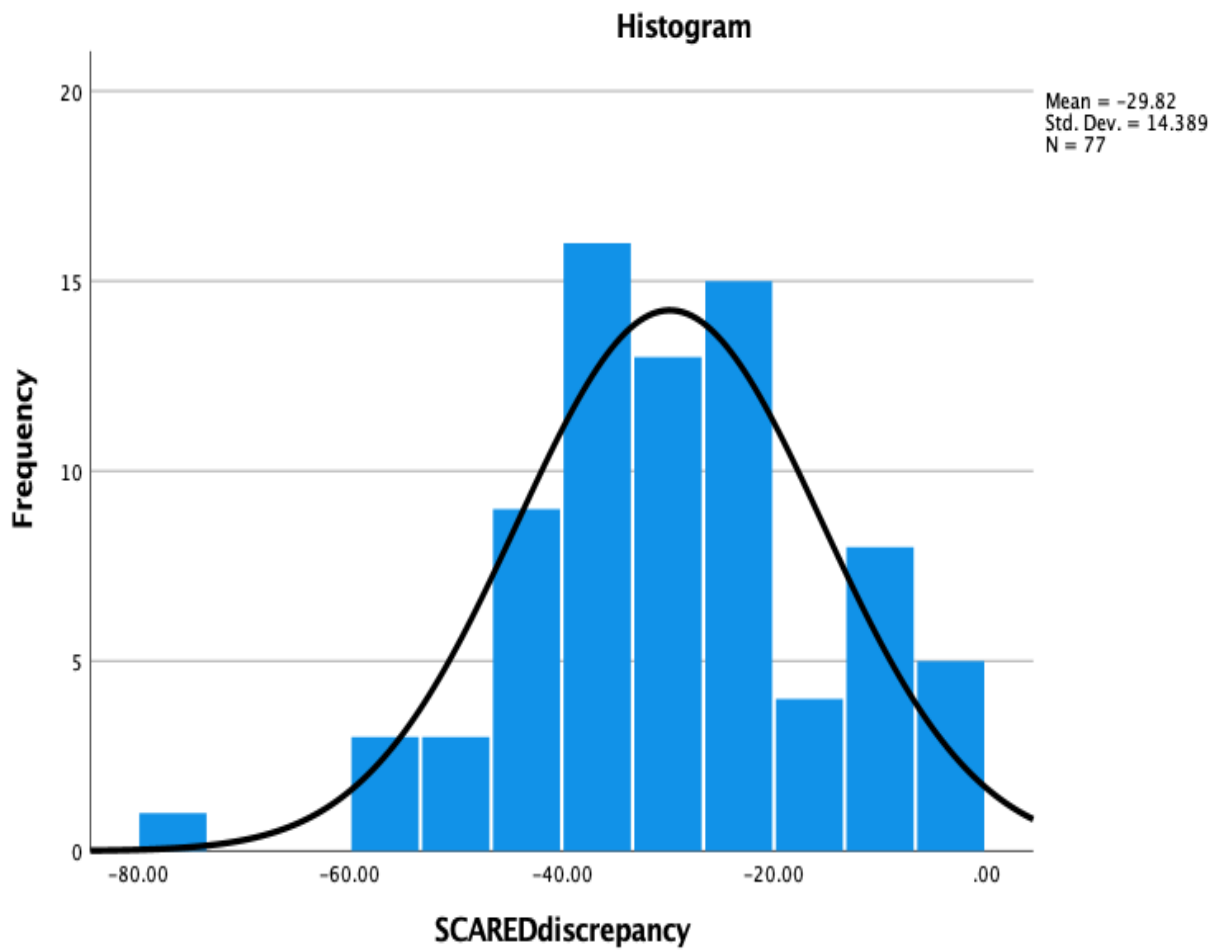


Figure 1: Histogram of Child and Mother SCARED Discrepancy

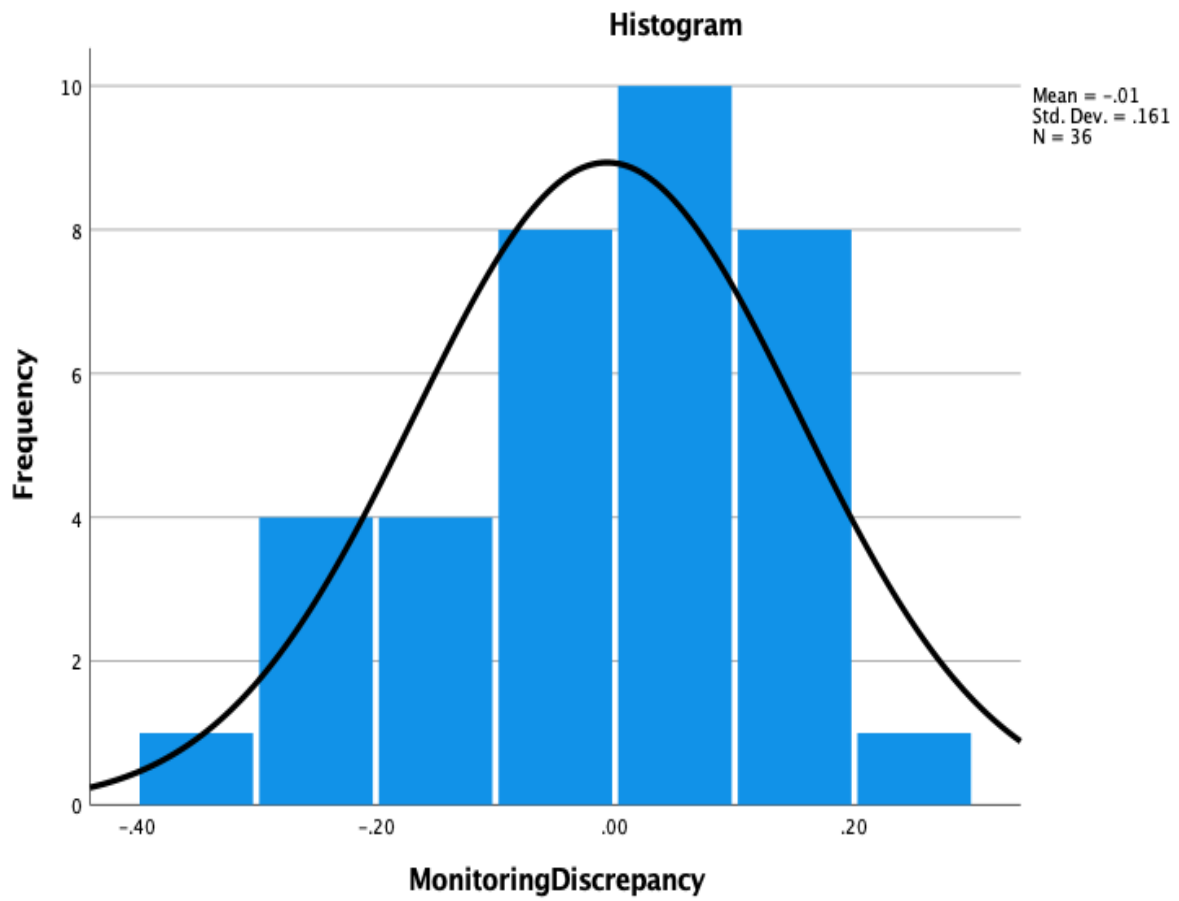


Figure 2: Histogram of Child and Parent Monitoring Discrepancy

BIBLIOGRAPHY

- Abar, C.C., Jackson, K.M., Colby, S.M. *et al.* Parent–child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. (2015). *Journal of Youth Adolescence* 44, 1688–1701., <https://doi.org/10.1007/s10964-014-0143-6>
- Berg-Nielsen, T. S., Vikan, A., & Dahl, A. A. (2002). Parenting related to child and parental psychopathology: A descriptive review of the literature. *Clinical Child Psychology and Psychiatry*, 7(4), 529–552. <https://doi.org/10.1177/1359104502007004006>
- Buss, Kristin A, et al. Toddler Dysregulated Fear Predicts Continued Risk for Social Anxiety Symptoms in Early Adolescence. (2020). *Development and Psychopathology*, U.S. National Library of Medicine, 2 Mar. 2020, www.ncbi.nlm.nih.gov/pubmed/32115004.
- Crouter, A., & Head, M. (2008). *Handbook of Parenting* (2nd ed., pp. 461-482). Mahwah: Lawrence Erlbaum Associates.
- DiClemente, Ralph J., et al. 2001, Parental monitoring: Association with Adolescents' risk behaviors. *American Academy of Pediatrics*, American Academy of Pediatrics, 1 June 2001.
- Durbeej, N., Sörman, K., Norén Selinus, E. *et al.* Trends in childhood and adolescent internalizing symptoms: results from Swedish population based twin cohorts. (2019). *BMC Psychology* 7, 50. <https://doi.org/10.1186/s40359-019-0326-8>
- Engel, N., Rodrigue, J., & Geffken, G. (1994). Parent-Child agreement on ratings of anxiety in Children. *Psychological Reports*, 75(3), 1251-1260. <https://doi.org/10.2466/pr0.1994.75.3.1251>
- Epstein, S. (1983). The mother-father-peer scale. Unpublished manuscript, University of Massachusetts, Amherst.

- Fisak, B.J., Richard, D. & Mann, A. The prevention of child and adolescent anxiety: A Meta-analytic Review. *Prev Sci* 12, 255–268 (2011). <https://doi.org/10.1007/s11121-011-0210-0>
- Hamza, C.A., Willoughby, T. Perceived parental monitoring, adolescent disclosure, and adolescent depressive symptoms: A longitudinal examination. (2011). *J Youth Adolescence* 40, 902–915. <https://doi.org/10.1007/s10964-010-9604-8>
- Hetherington, E. M., & Clingempeel, W. G. (1992). Coping with marital transitions: A family systems perspective. *Monographs of the Society for Research in Child Development*, 57(2-3), 1-242. doi:<http://dx.doi.org.ezaccess.libraries.psu.edu/10.2307/1166050>
- Hoghughi, M., & Speight, A. N. (1998). Good enough parenting for all children--a strategy for a healthier society. *Archives of disease in childhood*, 78(4), 293–296. <https://doi.org/10.1136/adc.78.4.293>
- Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abnormal Psychology*, 107(1), 109–117. <https://doi.org/10.1037/0021-843X.107.1.109>
- Lionetti, F., Emanuela Palladino, B., Passini, C., Casonato, M., Hamzallari, O., Ranta, M., Dellagiulia, A., & Keijsers, L. (2019) The development of parental monitoring during adolescence: A meta-analysis, *European Journal of Developmental Psychology*, 16:5, 552-580, DOI: [10.1080/17405629.2018.1476233](https://doi.org/10.1080/17405629.2018.1476233)
- Luster, T., & Okagaki, L. (2008). *Parenting: Ecological Perspective* (2nd ed.). Mahwah: Lawrence Erlbaum Associates, Inc.
- Marceau, K., Nair, N., Rogers, M.L. et al., 2020., Liability in parent- and child-based sources of parental monitoring Is differentially associated with adolescent substance use. *Prev Sci* 21, 568–579 (2020). <https://doi.org/10.1007/s11121-020-01094-7>

- McCarthy, C. (2019). *Anxiety in Teens is Rising: What's Going On?*. HealthyChildren.org. Retrieved 18 March 2021, from <https://www.healthychildren.org/English/health-issues/conditions/emotional-problems/Pages/Anxiety-Disorders.aspx>.
- Muris, P., & Broeren, S. (2009). Twenty-five Years of Research on Childhood Anxiety Disorders: Publication Trends Between 1982 and 2006 and a Selective Review of the Literature. *Journal of child and family studies*, 18(4), 388–395. <https://doi.org/10.1007/s10826-008-9242-x>
- Pettit, G.S., Laird, R.D., Dodge, K.A., Bates, J.E. and Criss, M.M. (2001), Antecedents and Behavior-Problem Outcomes of Parental Monitoring and Psychological Control in Early Adolescence. *Child Development*, 72: 583-598. doi:[10.1111/1467-8624.00298](https://doi.org/10.1111/1467-8624.00298)
- Rusby, Julie., Light, John., Crowley, Ryann., Westling, Erika., (2018). Influence of parent–youth relationship, parental monitoring, and parent substance use on adolescent substance use onset. *Journal of Family Psychology*, 32(3), 310–320. <https://doi.org/10.1037/fam0000350>
- Reynolds, E., MacPherson, L., Matusiewicz, A., Schreiber, W., & Lejeuz, C. (2011). Discrepancy between mother and child reports of parental knowledge and the relation to risk behavior engagement. *Journal Of Clinical Child & Adolescent Psychology*, 40(1), 67-79. <https://doi.org/10.1080/15374416.2011.533406>
- Stattin H, Kerr M. Parental monitoring: a reinterpretation. (2000). *Child Dev.* Jul-Aug;71(4):1072-85. doi: 10.1111/1467-8624.00210. PMID: 11016567.
- Steinberg, L., Darling, N. E., & Fletcher, A. C. (1995). *Authoritative parenting and adolescent adjustment: An ecological journey*. In P. Moen, G. H. Elder, Jr., & K. Lüscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (p. 423–466). American Psychological Association. <https://doi.org/10.1037/10176-012>

Supple, L., Unikel, B., Shaw, D., (2007), Physical environmental adversity and the protective role of maternal monitoring in relation to early child conduct problems. *Journal of Applied Developmental Psychology*, Volume 28, Issue 2. <https://doi.org/10.1016/j.appdev.2006.12.001>.

Vasey, M., & Dadds, M. (2001). *The developmental psychopathology of anxiety* (pp. 121-130). Oxford University Press.

Villarreal, D.L., Nelson, J.A. Parental monitoring and adolescent risk behaviors: The moderating role of adolescent internalizing symptoms and gender. (2018). *J Child Fam Stud* 27, 3627–3637. <https://doi.org/10.1007/s10826-018-1203-4>

Vannucci, Anna., Flannery, Kaitlyn., Ohannessian, Christine., Social media use and anxiety in emerging adults. (2017). *Journal of Affective Disorders*, Volume 207., Pages 163-166., ISSN 0165-0327., <https://doi.org/10.1016/j.jad.2016.08.040>.

Wei, Chiaying., Hoff, Alexandra., Villabø, Marianne A., Peterman, Jeremy., Kendall, Philip C., Piacentini, John., McCracken, James., Walkup, John T., Albano, Anne Marie., Rynn, Moira., Sherrill, Joel., Sakolsky, Dara., Birmaher, Boris., Ginsburg, Golda., Keeton, Courtney., Gosch, Elizabeth., Compton, Scott N., & March, John (2014) Assessing anxiety in youth with the multidimensional anxiety scale for children, *journal of clinical child & adolescent psychology*, 43:4, 566-578, DOI: [10.1080/15374416.2013.814541](https://doi.org/10.1080/15374416.2013.814541)

Yan, Fuyun., Zhang, Qi., Ran, Guangming., Li, Song., Niu, Xiang (2020) Relationship between parental psychological control and problem behaviours in youths: A three-level meta-analysis, *Children and Youth Services Review*, Volume 112, 104900, ISSN 0190-7409, <https://doi.org/10.1016/j.childyouth.2020.104900>

Margaret Mary Burke

Academic Vitae

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EDUCATION:

The Pennsylvania State University, Schreyer Honors College

Bachelor of Science, **Psychology** Major with Minor in **Human Development and Family Studies**

HONORS

- **Dean's List** 2017-Present
 - **Paterno Fellow** 2017-Present
-

ORGANIZATIONS

THON Committee: Hospitality 2017-2019

- Selected after an application and interview process
- Met every Wednesday to discuss upcoming THON events
- Worked at THON by providing dancer and family meals

THON Captain: Hospitality 2019-2021

- Selected after an application and interview process
- Interviewed a committee of 26 people, led meetings every week
- Worked at THON by providing dancer and family meals

SHO Time Mentor 2018-2019

- Three-day orientation for all incoming Schreyer freshmen
- Led a group of nine students through campus and academic activities

Homecoming Captain 2018-2021

- Weekly meetings
- In charge of planning events leading up to Homecoming Week
- Specifically, fully in charge of Allen Street Jam: a festival in the center of State College
- In charge of all committee member internal development for all of the Homecoming volunteers

Dr. Buss Emotion Development Lab Student Coordinator 2018-2021

- Led bi-weekly undergraduate meetings with graduate students and presenters
 - Presented research articles and led discussions with the undergraduates and graduate students
-

EMPLOYMENT

Children's Hospital of Philadelphia Internship 2015

- Selected based on application and interview
- Worked in Pediatric Radiology Unit
- Interacted with patients
- Attended daily career seminars
- Organized and sanitized waiting room

Saint Edmond's Home for Children 2016-2018

- Volunteered with children who reside at the home

Dr. Buss' Emotion Development Lab 2019

- Coded for the summer

Human Development and Family Studies Teaching Assistant 2020

- Worked as a teaching assistant for Dr. Bamaca's Adolescent Development HDFS class

- Held office hours to help students with class material, graded material

Anchor Psychological Associates, LLC Intern

Summer, 2020

- Worked as a technology associate for the company
 - Designed the company's website and Facebook page
 - Conducted research for the company
-

RESEARCH

Dr. Buss' Emotion Development Lab Research Assistant

2018-2021

- Research lab at Pennsylvania State University working to understand the systems in the development of emotion, emotion regulation, temperament, and adjustment from infancy to adolescence

Briarcrest Eating Disorders Clinic: Penn State Health Medical Center

Summer-Fall, 2020

- created surveys through Redcap to send to patients
 - transferred patient information from charts to spreadsheets
-

CONFERENCES

Burke, M. M., Buss, K. A., & McDoniel, M. *The role of discrepancies in parent and youth reporting on anxiety symptoms in early adolescence.* Poster submitted to the 2021 Biennial Meeting of the ***Society for Research in Child Development. Virtual conference.***

Burke, M. M., Buss, K. A., & McDoniel, M., (under review). *The role of discrepancies in parent and youth reporting on anxiety symptoms in early adolescence.* Poster submitted to the 2021 Penn State Psi Chi Conference, State College, PA.

SKILLS

- Statistics: proficient in SPSS
 - Observational coding: proficient in Datavyu
 - Data organization: proficient in REDcap
 - Trained in EEG data collection (due to COVID, could not collect on participants)
 - Trained in behavioral data collection
-

ACADEMIC ACCOMPLISHMENTS:

The Distinguished Service Award

2017

- Award given to a student who showed a dedication to helping those who are less fortunate

The Irma Alonso Award for Spanish

2017

- Award given to a student who showed an appreciation and understanding of the Spanish language and culture