# THE LINK BETWEEN YOUTH SECRECY AND MATERNAL COMPASSIONATE AND SELF-IMAGE GOALS

by

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# Abstract

JASMINE PERRY. The Link Between Youth Secrecy and Maternal Compassionate and Self-Image Goals. (Under the direction of DR. AMY CANEVELLO)

Youth secrecy toward their parents is related to negative outcomes including delinquency, conduct problems, depression, and anxiety. Secrecy literature tends to take one of two perspectives on the causes of youth secrecy: youth motivations for keeping secrets and parent actions that attempt to reduce youth secrecy by increasing levels of disclosure. The current study focuses on the role of mothers' goals for their relationships with their youth-aged children and the downstream consequences for youth secrecy. Findings supported hypotheses that mothers' compassionate goals to support their children and not harm them predicted mothers' greater responsive caring to their children, which facilitated students' trust in their mother, and ultimately led to the students' lower secrecy. Alternatively, findings also supported hypotheses that mothers' self-image goals to maintain or defend private or public images of themselves predicted less responsive caring from mothers toward their children, which predicted students' diminished trust in their mother, and ultimately led to students' increased secrecy. Covariates, implications, and future directions are also explored.

*Keywords*: compassionate goals, self-image goals, secrecy, youth, parent-child relationship

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**The Link Between Youth Secrecy and Maternal Compassionate and Self-Image Goals**

Child rearing can be rewarding for many parents. It is a unique opportunity for learning and development not just for children, but for parents as well. However, parenting can also present challenges, from satisfying children's basic needs in infancy to fulfilling their emotional needs as they grow and mature during more advanced stages of development. Youth (i.e., children aged 15 to 24; WHO, 2020), present a unique set of challenges for parents. Although they are old enough to warrant receiving more freedom and autonomy over their choices compared to young children, this increased freedom also comes at a cost, leaving them at risk for internalizing problems, such as anxiety or depression, and externalizing problems, such as aggression or hyperactivity (Kapetanovic et al., 2020). Further, youth in this age group have an especially high chance of committing a criminal offense and, because of their age, are also more likely to be charged and sentenced as adults for these offenses (Lober & Stallings, 2011). Though youth have these increasing levels of freedom, it is important to note that many are not completely self-sufficient and independent from their parents (Schneider, 2000).

With their increased desire for independence, it is natural for youth to also desire privacy; keeping secrets from their parents is an easy way to achieve and maintain this privacy (Hawk et al., 2008). As youth continue to mature and obtain more opportunities for independence and autonomy, this desire only increases over time (Oudekerk et al., 2014). However, a propensity toward secrecy also leads to negative outcomes such as delinquency and loneliness (Frijns et al., 2020). Further, secrecy can lead to low quality parent-child relationships which is not only associated with more depressive symptoms later in life (Branje et al., 2010), but because parental support is a protective factor, can also lead to higher chances of other outcomes such as alcoholism and depression (Cobb, 1976). Thus, understanding processes that contribute to youth

secrecy toward parents may be important in restricting its negative consequences. The goal of the current investigation is to explore how the parent-youth relationship dynamic may predict youth secrecy toward parents.

**Secrecy vs Non-Disclosure**

Secrecy is distinct from non-disclosure (Frijns et al., 2010; Jäggi et al., 2006; Osborn et al., 2013). While both involve a failure to reveal information (Frijns et al., 2005), non-disclosure is simply the omission of information, whereas secrecy is characterized by a specific motive to deliberately conceal information (Frijns et al., 2010). Disclosure and secrecy can occur simultaneously (Osborn et al. (2013). For example, youth may not disclose to parents what they had for lunch because it doesn't seem important but may also be secretive about a low-test score because they are afraid of punishment or disappointing their parents. Notably, disclosure (the opposite of non-disclosure) is beneficial only when is combined with low secrecy (Osborn et al., 2013). This work will focus on secrecy because of its maladaptive consequences (Frijns et al., 2020; Kapetanovic et al., 2020).

Youth secrecy has been approached from two perspectives. The first focuses on child-related motives for secrecy, including fear of punishment, desire for autonomy and privacy, and factors related to need fulfilment (Hunter et al., 2011; Jäggi et al., 2006; Osborn, et al., 2013; Uysal, et al., 2010). This approach is consistent with societal expectations that children desire parental acceptance, but not over their own autonomy. The needs to maintain autonomy, and restore it after parents violate their privacy, are highly associated with patterns of youth secrecy (Frijns et al., 2020).

The second approach centers on parents. Specifically, this perspective focuses on parents' attempts to reduce children's secrecy by compelling them to disclose. To explore the association

between parent actions and youth secrecy, some have utilized the self-determination theory framework (Milaković et al., 2018; Uysal et al. 2010). Findings from these studies suggest that youth secrecy is dependent on the extent to which their psychological needs are being satisfied. Additionally, facilitating parental behaviors, such as asking non-invasive questions, encouraging disclosure from the child, as well as self-disclosing about their own experiences, lead to less secrecy from youth (Milaković et al., 2018).

**Parental Goals**

Another perspective that takes a parent-centered approach is the parenting goals literature. These goals are generally defined as the short-term or long-term goals that parents want to achieve (Siegel & McGillicuddy-De Lis, 2002). Here, there is a distinction between parent's self-oriented goals (i.e., prioritizing their own needs and well-being) and child-oriented goals (i.e., prioritizing the needs, wants, and overall well-being of their children) (Leerkes et al., 2010). Parent's self-oriented goals include tasks such as cleaning the house, spending time with friends, and getting their children to bed early, while their child-oriented goals include comforting, disciplining, and playing games with their children (Dix, 1992). Generally, child-oriented goals are viewed more favorably than parent-oriented goals as they've been shown to be associated with more sensitive and supportive parenting (Leerkes et al., 2010).

Both the parenting goals and the child secrecy literatures focus heavily on specific parent actions toward their children that lead to their children's outcomes. However, parents' motivation toward their children may be more informative in this context as motives generally drive behavior.

The current research proposes an alternative framework that takes a relational perspective on children's secrecy. I draw from the literatures on interpersonal goals (Crocker &

Canevello, 2008), responsiveness (e.g., Gable & Reis, 2006), and parental caring (Parker et al., 1979) to propose a dyadic model of secrecy in which mothers' interpersonal goals for their relationships with their children promote a relational process that ultimately predicts students' secrecy. Specifically, as shown in Figure 1, I hypothesize that mothers' compassionate goals to be supportive and not harm their children lead them to exhibit more responsive caring to their children (Path A) and mothers' self-image goals to construct, maintain, and defend desired images of the self will lead them to exhibit less responsive caring to their children (Path B). Mothers' responsive caring will in turn predict students' perceptions of mothers' responsive caring (Path C), which will then lead to students' greater trust in mothers (Path D), and predict students' lower secrecy toward mothers when mothers have compassionate goals and higher secrecy toward mothers when mothers have self-image goals (Path E). Below, I present the rationale for each path in this model.

**Figure 1**

*Pathway for Maternal Goals to Youth Secrecy*
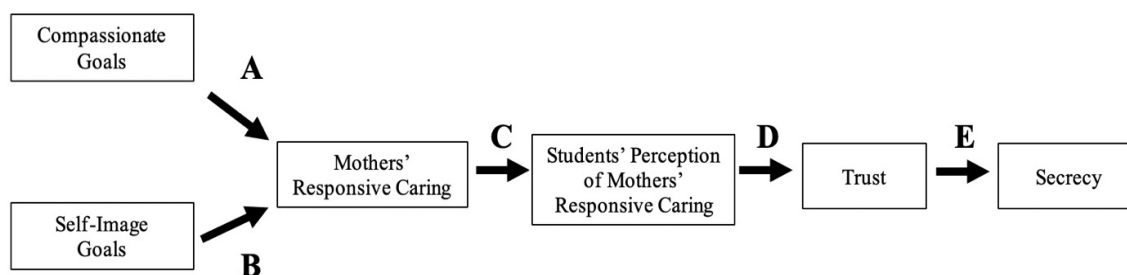


**Paths A and B: Mothers' Interpersonal Goals Predict Their Responsive Caring to Student**

This investigation focuses on two specific interpersonal goals that shape parent-child relationship dynamics: Compassionate goals and self-image goals. When people have compassionate goals, they want to be constructive, supportive, and not harmful in their

interactions with others (Crocker & Canevello, 2008). These goals predict closeness, feelings of connectedness, and an increased perception of social support and trust (Canevello & Crocker, 2010). When people have self-image goals they strive to construct, maintain, and defend desired images of the self, either publicly or in private. (Crocker & Canevello, 2008). When people have self-image goals, they are more concerned with their own needs but not what others need and therefore experience loneliness, conflict, and feelings of fear (Crocker & Canevello, 2015). In adult relationships, compassionate goals are associated with constructive relationship functioning and lead to better relationship quality (Canevello & Crocker, 2010). Self-image goals are associated with poor overall relationship functioning and predict worse relationship quality (Canevello & Crocker, 2010). The effects of these goals on relationship outcomes operate through interpersonal responsiveness processes (Canevello & Crocker, 2010, 2011).

Responsiveness, or demonstrating caring for, understanding, and validation of another, is key to high quality close relationships (Reis, et al., 2004). It is especially relevant to the functioning and quality of parent-child relationships. Parental responsiveness is associated with positive outcomes for their children including improved social competence and better social adjustment with their peers (Lindsey & Mize, 2004). A lack of parental responsiveness is related to negative emotionality (Cha, 2017).

I propose that parental compassionate and self-image goals predict their responsive caring to their children. When people have compassionate goals to support others and not harm them, they attend to other's needs (Lee et al., in press) and report being more caring understanding, and validating of others (Canevello & Crocker, 2010, 2011, 2011). Because those with self-image goals care about how they are perceived but do not care about what others need, they are not responsive to them (Canevello & Crocker, 2010, 2011, 2011). Although the

empirical links from compassionate and self-image goals to responsiveness have been

demonstrated in the context of adult relationships, I propose that these associations will extend to

parent-child relationships. Thus, parents' goals should predict their responsive caring to children,

such that when parents have higher compassionate goals, they will be more responsive and

caring to their children (Path A) and when parents have higher self-image goals, they will be less

responsive and caring to their children (Path B).

**Path C: Mothers' Responsive Caring Predicts' Children's Greater Perceptions of Mothers'**

**Responsive Caring**

People notice when others are responsive to them. This is assumed by most theories in

the close relationships' literature (e.g., Gregory et al., 2020; Murray, 2008; Selcuk et al., 2018)

and well-supported empirically (Canevello & Crocker, 2010; Gregory et al., 2020; Reis et al.

2004). When people behave in ways that are understanding, caring, and validating it, in turn,

leads to receivers feeling understood, cared for, and validated (Reis et al., 2004). I expect that

this association should generalize to parent-child relationships: When parents care about,

understand, and validate their children, children should report feeling cared for, understood, and

validated by parents (Path C).

**Path D: Children's Perceptions of Mothers' Responsive Caring Predicts Their Greater**

**Trust in Parents**

Children's perceptions of parents as responsive and caring should reinforce their trust in

parents. Trust involves both perceptions that others are truthful and honest and that interactions

with them will not bring harm (Deutsch, 1962; Rempel et al. 1985). Previous experiences also

influence trust because they allow children to develop schemas about interactions with their

parents (Reis & Shaver, 1988). Perceptions of responsiveness facilitate feelings of safety

(Murray, 2008), and emotional intimacy (Reis & Shaver, 1988) that signal to the child that there is no risk of harm. Thus, I predict that children's perceptions that parents are responsive and caring will positively predict their trust in parents (Path D).

**Path E: Children's Trust in Parents Predicts Their Lower Secrecy Toward Parents**

When people trust others, they can be honest and truthful with them. Without trust, people are hesitant to initiate, invest in, or sustain their voluntary relationships (Simpson, 2007) and engage in self-protective behaviors to minimize the risk of rejection or harm (Murray, 2008). In parent-child relationships, empirical evidence indicates a strong negative association between child trust and secrecy toward parents (Frijns et al., 2005). When children trust their parents, they don't need to protect their need for autonomy and, therefore, should be less likely to keep secrets. Thus, children's trust in parents should be related to their lower secrecy (Path E).

**Maternal Goals and Secrecy**

In sum, I expect that when parents are higher in compassionate goals, they should be more responsive and caring to their children (Path A), whereas when parents are higher in self-image goals, they should be less responsive and caring to their children (Path B). In turn, children should perceive parents' responsive caring (Path C), which should facilitate trust (Path D), which should, in turn, lead to lower secrecy (Path E). Thus, parents' compassionate goals should ultimately lead to children's lower secrecy toward parents and parents' self-image goals should ultimately lead to children's greater secrecy toward parents.

**Covariates**

In addition to the constructs in my hypothesized model, students' attachment style, mothers' parenting style, and general distress for mothers, and general distress for students will be assessed. These constructs are included because of their relation to the constructs included in

my model. For instance, it is possible that parenting styles may be associated with mothers' interpersonal goals and the relational process proposed here. That is, an authoritative parenting style may be associated with higher maternal compassionate goals and responsive caring, and students' higher perceptions of maternal responsive caring, trust, and secrecy. Similarly, permissive, and authoritarian parenting styles may be associated with higher maternal self-image goals and to lower maternal responsive caring, and children's lower perceptions of mothers' responsive caring, trust, and secrecy.

Further, children with more secure attachments to parents are less secretive with their parents (Dykstra et al., 2020). Thus, it is possible that children's attachment anxiety and avoidance may be associated with these processes. That is, children's attachment anxiety and attachment avoidance may be associated with mothers' greater self-image goals, lower compassionate goals, and lower responsive caring. Children's attachment anxiety and avoidance may also be associated with children's lower perceptions of mothers' responsive caring, lower trust, and increased secrecy.

Finally, factors such as depression, anxiety, and stress may affect the associations between mothers and their children. For example, mothers' depression, anxiety, and stress may prevent mothers from showing responsive caring toward their children and childrens' depression, anxiety, and stress may prevent children from perceiving their mothers' responsive caring and may hinder their ability to trust in their mother.

**Alternative Models**

 I will also test the plausibility of three alternative models, each altering the ordering of the variables in the hypothesized model. It is possible that mothers' intentions, or goals, are derived from their responsive caring rather than responsive caring being derived from maternal

interpersonal goals. Thus, the first alternative model will test a pathway that reverses the order of paths A and B where mothers' responsive caring predicts mothers' interpersonal goals. All other pathways will be left unchanged. It is also possible that students' trust predicts students' perceptions of mothers' responsive caring instead of students' perceptions of mothers' responsive caring predicting trust. Therefore, the second alternative model will reverse the order of the variables in path D so that students' trust predicts students' perceptions of mothers' responsive caring. All other pathways will be left unchanged. Finally, the third alternative model will reverse the order of the variables in path E so that students' secrecy predicts students' trust. This alternative model is intended to test the plausibility that student trust is derived from student secrecy rather than being a predictor of student secrecy. These alternative models will support my hypotheses if their indirect effects are nonsignificant or weaker in comparison to those found in the primary analyses.

**Method**

**Participants**

Two hundred and sixty-one students were recruited for a study about their relationship with their mother[1]. I chose to focus on mothers in this study because youth typically have closer relationships with their mothers, compared to fathers (Suitor et al., 2015). To participate, students were required to be enrolled at the University of North Carolina at Charlotte, be between the ages of 18 and 24, and have a mother or maternal caregiver who was also willing to participate in the study. Mothers needed to be at least 18 years old and fluent in English.

The students were recruited via the University of North Carolina at Charlotte Psychology SONA pool and received course credit for their and their mothers' participation. Once students consented to participate in the study, they completed an online questionnaire and provided their mothers' email address so that their mother could be sent the parent questionnaire via email. Participants were asked to complete the questionnaire in one sitting.

Of the 261 students who consented to participate in the study and completed the student version of the questionnaire, 54 were excluded from analyses because they did not provide adequate information for their mothers. The data for the remaining 207 students was matched with their mothers' data to create 207 dyads consisting of 414 participants: 207 students and 207 mothers.

Two hundred seven dyads consented to participate in this study. Eleven dyads were removed because the students were older than 24 years old ($N = 5$), mothers did not complete the entire questionnaire ($N = 4$), or fathers responded to the questionnaire ($N = 2$). One student-mother-father triad completed the study; the father's data were removed from the final data set.

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[1] I use the term mother for conciseness, but this term also includes other maternal caregivers such as grandmothers, stepmothers, adopted mothers, etc.

The final sample included 196 dyads. Of the students, 71% identified as female, 27% identified as male, and 2% identified as nonbinary or another gender identity. Student ages ranged from 18 to 24 ($M = 18.87$, $SD = 1.13$), while mother's ages ranged from 36 to 61 ($M = 48.59$, $SD = 5.66$). Within the sample of students, 62% identified as Non-Hispanic White, 13% identified as Black or African American, 13% identified as Asian, 4% identified as Multiracial, 3% identified as Hispanic, 3% identified as American Indian or Alaska Native, 2% identified as some other race or ethnicity. Full demographic information for both students and mothers can be found in Tables 1 and 2 respectively.

**Measures**

Mothers completed measures of compassionate and self-image goals toward their child and responsive caring for their child. Parenting styles, and mother's general distress were also measured for covariate analyses. Students completed measures of perceptions of mothers' responsive caring, trust in mothers, and secrecy toward mothers. Student attachment and students' general distress were also measured for covariate analyses. Demographic information, including age, gender, race, ethnicity, and frequency of interaction was collected from both mothers and students. Mothers also reported on their socioeconomic status. Students specified their exact relationship to their mother (e.g., biological mother, grandmother, adoptive mother, etc.).

***Measures Completed by Mothers.***

**Compassionate and Self-image Goals**. Mothers' compassionate and self-image goals were measured using a 31-item questionnaire based on the original compassionate and self-image goal measure developed by Crocker and Canevello (2008). The questionnaire was

modified and expanded upon to capture the dynamic of parent-child relationships rather than that of romantic partners or roommates.

Items began with the stem "In general, in my relationship with my child, I want/try to…" and were rated on a 5-point Likert-type scale with responses ranging from 1 (*Not at all*) to 5 (*Extremely*). Sample items for compassionate goals included "Avoid closing myself off emotionally from my child," "Be supportive," and "Have compassion for my child's mistakes and weaknesses." Sample items for self-image goals included "Convince my child that I am right," "Get my child to think that I am kind," and "Demonstrate to my child that I would do anything for them." The full scale appears in Appendix A. This measure had excellent reliability in this sample ($\alpha_{\text{compassionate goals}}$ = .73; $\alpha_{\text{self-image goals}}$ = .95).

**Responsive Caring toward Students.** Mothers' responsive caring toward students was measured using a composite of a modified version of the Perceived Partner Responsiveness Scale (Reis et al., 2017) and the caring items from the Parental Bonding Scale (Parker et al., 1979). This was done to capture the caring between parent and child as part of responsiveness.

I used a shortened version of the Perceived Partner Responsiveness Scale and modified it so that instructions and items referred to the mother-child relationship. Items began with the stem "In my relationship with my child, I usually: …" and were rated on a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*completely*). Sample items included "really listen to them," "seem interested in what they are thinking and feeling," and "dismiss my child's concerns too easily" (Reis et al., 2017). The full scale, including all items, appears in Appendix B. This scale had good reliability ($\alpha$ = .82)

The 12-item modified Parental Bonding Instrument was used to capture parent's caring toward their children. Only the caring items from the parental bonding instrument were used in

this study. Using a 4-point Likert-type scale ranging from 3 (*Very like me*) to 0 (*Very unlike me*). Mothers were asked to respond to the questions based on their relationship with their child during their first 16 years of life. Sample items included "Spoke to my child in a warm and friendly voice," "Appeared to understand my child's problems and worries" and "Enjoyed talking things over with my child." This scale had good reliability ($\alpha = .84$). The final scale appears in Appendix C. Because these measures of responsiveness and caring were moderately correlated ($r = .59$, p < .001), I standardized each scale and averaged them to create a composite measure of responsive caring that was utilized for analyses.

**Parenting style.** Mothers' parenting style were measured using the 32-item short form of the Parenting Styles and Dimensions Questionnaire developed by Robinson et al. (2001). Items were modified to reflect responses from the mother only rather than both mother and father and were worded in past tense because mothers were asked to report how often they exhibited these behaviors while their child was growing up. Items were rated on a 5-point Likert-type scale ranging from 1 (*never)* to 5 (*always*) and captured three subscales of parenting styles: authoritative, authoritarian, and permissive. Sample items included "I was responsive to my child's feelings or needs" (authoritative), "I encouraged my child to talk about their troubles" (authoritative), "I would yell or shout when my child misbehaved" (authoritarian), "I would give spankings when my child was disobedient" (authoritarian), "I found it difficult to discipline my child" (permissive), and "I stated punishments to my child and did not actually do them" (permissive). This scale had good reliability ($\alpha = .76$). The full scale appears in Appendix D.

*Measures Completed by Students*

**Students' Perceptions of Mothers' Responsive Caring.** Perceptions of mothers' responsive caring was measured using the modified version of the Perceived Partner

Responsiveness Scale (Reis et al., 2017) and the caring items from the Parental Bonding Scale (Parker et al., 1979). The content of these items was identical to those used to measure mothers' responsive caring, but items were framed to assess students' perceptions of their mothers' responsive caring.

Items assessing students perceived responsiveness began with the stem "My mother usually: …" and were rated on a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*completely*). Sample items included "ignores my side of the story," "is understanding," and "seems to ignore the things that are most important to me." This scale had good reliability ($\alpha =$ .89). The full scale can be found in Appendix E.

For the student version of the parental bonding measure, items asked students to respond about their relationship with their mother. On a 4-point Likert-type scale ranging from 3 (*very* like) to 0 (*very* unlike), participants were asked to report how various attitudes and behaviors of parents aligned with their own mothers' attitudes and behaviors, during their first 16 years of life. Sample items included "spoke to me in a warm and friendly voice," "appeared to understand my problems and worries" and "enjoyed talking things over with me." This scale had excellent reliability ($\alpha =$ .92). See Appendix F for the full scale.

Because these measures of perceived responsiveness from mothers and parental caring were moderately correlated ($r =$ .59), I standardized each scale and averaged them to create a composite measure of students' perceptions of mothers' responsive caring.

**Trust.** Trust in mothers was measured using a modified version of the Dyadic Trust Scale developed by Larzelere and Huston (1980). Instructions for the scale stated "please respond to the following statements indicating how strongly you agree with the statements below. Please be as honest as you can." Students rated their agreement with eight items rated on

a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items included: "My mother treats me fairly and justly," "I feel that I can trust my mother completely," and "My mother is truly sincere in her promises." This scale had excellent reliability ($\alpha$ = .92). See Appendix G for the full measure.

**Secrecy.** Secrecy was measured using a modified version of the Self-concealment scale developed by Larson and Chastain (1990). The self-concealment scale is a 10-item measure that asked participants to report on the extent to which they agreed or disagreed with statements related to self-concealment. Instructions began by defining self-concealment as "a tendency to conceal from others personal information that one perceives as distressing or negative." The items were modified so that they referred to participants' concealment of information from their mothers specifically and were rated on a 5-point Likert-type scale ranging from 1 (*strongly disagree)* to 5 (*strongly agree*). Sample items included "my secrets are too embarrassing to share with my mother," "I have a secret that is so private I would lie if my mother asked me about it," and "Telling a secret often backfires and I wish I hadn't told it." This measure demonstrated excellent reliability ($\alpha$ = .93). See Appendix H for the full measure.

**Attachment to parent.** Students' attachment to mothers was measured with the mother subscale of the Inventory of Peer and Parent Attachment Scale (Armsden & Greenberg, 1987). The questionnaire asked participants to respond about their feelings toward their mother using a 5-point Likert-type scale ranging from 1 (*almost never or never true*) to 5 (*almost always or always true*). Sample items included: "I feel my mother does a good job as my mother," "I get upset easily around my mother," and "My mother helps me understand myself better." This measure had excellent reliability ($\alpha$ = .96). See Appendix I for the full measure.

**General Distress.** Mothers and students reported their general distress using the 21-item

Depression, Anxiety, and Stress Scale (DASS-21) by Lovibond and Lovibond (1995). Using a 4-

point Likert-Type scale ranging from 0 (*Did not apply to me at all*) and 3 (*Applied to me very*

*much, or most of the time*), participants reported how much the statements applied to them over

the past week. Sample items included "I found it hard to wind down" (stress), "I was aware of

dryness of my mouth" (anxiety), and "I couldn't seem to experience any positive feelings at all"

(depression). Subscales for the DASS-21 were combined to create a single score for general

distress. The measure had excellent reliability for both mothers and students ($\alpha_{mothers}$ = .94;

$\alpha_{students}$ = .95). See Appendix J for the full measure.

**Analytic Strategy**

Analyses were conducted in three phases. In Phase 1, I tested two path models using PROCESS (Model 6; Hayes, 2013) to test the indirect effect of maternal goals on youth secrecy through a pathway where maternal goals predict mothers' responsive caring, which predicts students' perceptions of mothers' responsive caring, which predicts students' trust, and ultimately predicts students' secrecy. All variables were standardized prior to data analysis. I tested one model where compassionate goals were the main predictor while controlling for self-image goals, and a second in which self-image goals were the main predictor while controlling for compassionate goals. In Phase 2, I tested whether student attachment, student general distress, parenting style, and parent general distress accounted for the findings in Phase 1. Each covariate was tested in separate analyses. Due to the cross-sectional nature of these data, in Phase 3, I tested the feasibility of three alternative models, each with an alternative ordering of the hypothesized model. Each model was tested twice: once with mothers' compassionate goals as the main predictor while controlling for mothers' self-image goals, and again with mothers' self-image goals as the main predictor while controlling for mothers' compassionate goals. As shown in figures 3-5, alternative model 1 reverses the order of mothers' compassionate and self-image goals and their responsive caring; alternative model 2 reverses the order of students' perceptions of mothers' responsive caring and trust; and alternative model 3 reverses the order of students' trust and their secrecy.

**Results**

The purpose of this study was to examine if mothers' interpersonal goals could predict youth secrecy. To do this, I tested the plausibility of a relational process in which mothers' interpersonal goals predicted mothers' responsive caring, which predicted students' perceptions of mothers' responsive caring, which predicted students' trust, which then predicted students' secrecy. In this sample, mothers were generally high in compassionate goals ($M = 4.35$, $SD = .47$), moderate in self-image goals ($M = 3.09$, $SD = .87$). Students had generally high trust in their mothers ($M = 5.88$, $SD = 1.23$), and had moderate levels of secrecy ($M = 2.79$, $SD = 1.12$). Scores for mothers' responsive caring and students' perceptions of mothers' responsive caring were standardized ($M_{mothers} = 0$, $SD_{mothers} = .89$; $M_{students} = 0$, $SD_{students} = .94$). Consistent with previous research (Crocker & Canevello, 2012), and the idea that individuals can have both compassionate and self-image goals concurrently, compassionate and self-images goals were positively correlated with each other ($r = .30$, $p < .001$). Full correlations, means, and standard deviations for student measures, mother measures, and student measures with mother measures can be found in Tables 3, 4, and 5 respectively.

**Phase 1: Testing the Hypothesized Path Model**

First, I hypothesized that maternal compassionate goals would predict increased responsive caring from mothers, which would predict increased perceptions of responsive caring from students, which would predict increased trust from students toward their mothers, and further predict decreased secrecy from students toward their mothers. Additionally, I hypothesized that maternal self-image goals would predict decreased responsive caring from mothers, which would predict decreased perceptions of responsive caring from students, which would predict decreased trust from students toward their mothers, and further predict increased

secrecy from students toward their mothers. Results of tests of these path models are summarized in Table 6 and Figure 2. As hypothesized, maternal compassionate goals predicted mothers' higher responsive caring ($\beta = .55$, $p < .001$); and maternal self-image goals predicted mothers' lower responsive caring ($\beta = -.27$, $p < .001$). Further, mothers' responsive caring predicted students' perceptions of mothers' responsive caring ($\beta = .72$, $p < .001$). Students' perceptions of responsive caring predicted students' trust ($\beta = .82$, $p < .001$) and ultimately predicted students' lower levels of secrecy ($\beta = -.27$, $p < .01$). The negative indirect effect from maternal compassionate goals to youth secrecy was significant (effect $= -.09$, 95% CI [-.16, -.03]), as was the positive indirect effect from maternal self-image goals to youth secrecy (effect $= .04$, 95% CI [.01, .08]). The direct effects of maternal compassionate and self-image goals on student secrecy were nonsignificant (maternal compassionate goals: effect $= -.10$, 95% CI [-.23, .04]; maternal self-image goals: effect $= .10$, 95% CI [-.02, .23]). There were no significant direct effects found during any of the conducted analyses.

**Phase 2: Testing Covariates**

Next, I tested students' attachment, students' general distress, mothers' parenting style, and mothers' general distress as covariates with the hypothesized model. Each covariate was tested separately. Results of covariate analyses for student attachment, parenting style, student general distress, and mother's general distress are summarized in Tables 7-10. Indirect effects for compassionate goals remain unchanged when I included parenting style (effect $= -.10$, 95% CI [-.24, -.04]), students' general distress (effect $= -.04$, 95% CI [-.09, -.01]), and mothers' general distress (effect $= -.08$, 95% CI [-.16, -.03]) as covariates in separate tests of the primary model. The same was true of the indirect effects for self-image goals (parenting style: (effect $= .02$, 95% CI [.00, .05]); students' general distress: (effect $= .02$, 95% CI [.00, .04]); and mothers' general

distress: (effect = .04, 95% CI [.01, .08]). However, as shown in Table 8, when I controlled for students' attachment in the hypothesized path model, the indirect effects linking maternal compassionate and self-image goals to students' secrecy became nonsignificant (compassionate goals: (effect = .00, 95% CI [-.01, .01]); self-image goals: (effect = .00, 95% CI [-.01, .00])). Pathways A, B (maternal goals predict maternal responsive caring), C (mothers responsive caring predicts students' perceptions of mothers' responsive caring) and D (students' perceptions of mothers' responsive caring predicts student trust) remained unchanged, but when controlling for attachment students' trust no longer predicted their secrecy (Path E; $\beta$ = -.00, $p$ = .995).

**Phase 3: Testing Alternative Models**

Lastly, I tested the plausibility of three alternative models, each altering the ordering of the variables in the hypothesized model. Results of the alternative models are summarized in Tables 11-13 and Figures 3-5. There were no direct effects found for any of the alternative models. The first alternative model, shown in figure 3 reversed the order of paths A and B where mothers' responsive caring predicted mothers' interpersonal goals. All other pathways in the hypothesized model were left unchanged. In this model, mothers' responsive caring predicted mothers' compassionate goals ($\beta$ = .51, $p$ < .001) and mothers' self-image goals ($\beta$ = -.31, $p$ < .001); but mothers' interpersonal goals did not predict students' perceptions of mothers' responsive caring (compassionate goals: ($\beta$ = -.03, $p$ =.588); Self-image goals: ($\beta$ = -.09, $p$ = .096)). Conversely, students' perceptions of mothers' responsive caring still predicted trust ($\beta$ = .82, $p$ < .001), and trust did predict secrecy ($\beta$ = -.27, $p$ < .01). Results indicated that alternative model 1 was not a plausible modification of the hypothesized model as the indirect effects were nonsignificant for both compassionate and self-image goals (compassionate goals: effect = .00, 95% CI [-.01, .02]; Self-image goals: effect = -.01, 95% CI [-.02, .00]).

The second alternative model, shown in figure 4, reversed the order of the variables in path D so that students' trust predicted students' perceptions of mothers' responsive caring. All other pathways were left unchanged. In this model, maternal compassionate goals predicted mothers' higher responsive caring ($\beta = .55$, $p < .001$); and maternal self-image goals predicted mothers' lower responsive caring ($\beta = -.27$, $p < .001$). Further, mothers' responsive caring predicted students' trust ($\beta = .54$, $p < .001$). Students' trust predicted students' perceptions of mothers' responsive caring ($\beta = .59$, $p < .001$) and ultimately predicted students' lower levels of secrecy ($\beta = -.35$, $p < .01$). The indirect effect in this model was significant for both compassionate and self-image goals (compassionate goals: (effect = -.06, 95% CI [-.12, -.02]); Self-image goals: (effect = .03, 95% CI [.01, .06]).

The third alternative model, shown in figure 5, reversed the order of the variables in path E so that students' secrecy predicted students' trust. All other pathways were left unchanged. In this model, maternal compassionate goals predicted mothers' higher responsive caring ($\beta = .55$, $p < .001$); and maternal self-image goals predicted mothers' lower responsive caring ($\beta = -.27$, $p < .001$). Further, mothers' responsive caring predicted students' perceptions of mothers' responsive caring ($\beta = .72$, $p < .001$). Students' perceptions of responsive caring predicted students' secrecy ($\beta = -.56$, $p < .001$) and ultimately predicted students' lower levels of trust ($\beta = -.15$, $p < .01$). The indirect effect in this model was significant for both compassionate and self-image goals (compassionate goals: effect = .03, 95% CI [.01, .06]; Self-image goals: effect = -.02, 95% CI [-.03, -.00]).

**Discussion**

Findings from the current study supported the plausibility of a path model in which mothers' maternal compassionate goals to support and not harm their children, or mothers' self-image goals to maintain or defend private or public images of themselves, has downstream implications for students' secrecy. Results indicate that all five pathways presented in the hypothesized model significantly contribute to the process from maternal interpersonal goals to youth secrecy.

**Main analyses**

The results of the analyses supported my hypotheses that mothers' compassionate goals are associated with lower levels of student secrecy and mothers' self-image goals are associated with higher levels of student secrecy. Results also supported my hypothesized model in which maternal goals predict mothers' responsive caring, which predicts students' perception of mothers' responsive caring, which predicts student trust, and ultimately leads to student secrecy. Though maternal compassionate and self-image goals were significantly correlated with student secrecy, none of the analyses yielded a significant direct effect between maternal goals and student secrecy. This indicates that student secrecy is not derived directly from maternal goals, but rather it is a product of indirect processes within the interpersonal relationship between mother and child.

Interestingly, these findings offer a perspective on parent-child relationships that is different, and possibly more nuanced, than what is offered currently in the literature. The parental goals literature acknowledges mothers' self-oriented and child-oriented goals, (Leerkes et al., 2010); however, these goals are in opposition with each other as mothers' must find a balance between goals that benefit themselves and goals that benefit their children (Dix, 1992).

The interpersonal framework offered by compassionate and self-image goals may provide a more practical perspective on the role that mothers play in student outcomes. That is, student outcomes may not be a product of mothers' individual actions, such as parental solicitation and acceptance (Hunter et al., 2011), or students' individual impulses, such as desire for privacy and fear of punishment (Hunter et al., 2011), but rather, outcomes may arise through the interactions between mothers and students and the intentions they establish for those interactions.

**Alternative analyses**

In addition to the primary analyses, I tested three separate alternative models to provide further support for my findings given that they were cross-sectional. These alternative models were intended to show that the sequence of variables in the hypothesized model were superior to other potential orderings of the variables. The first alternative model in which maternal responsive caring predicted maternal goals did not have a significant direct or indirect effect because maternal compassionate and self-image goals did not predict students' perceptions of mothers' responsive caring. These findings raise two important considerations. First, mothers' responsive caring and students' perceptions of mothers' responsive caring seem to be directly linked. It is possible that these processes occur simultaneously in that when mothers exhibit responsive caring, students perceive this responsive caring immediately after. Thus, when the pathway between mothers' responsive caring and students' perceptions of mothers' responsive caring is interrupted, as it was in this alternative model, an important component of the interpersonal relationship between mothers and students is eliminated. This is a potential explanation for why the pathway became nonsignificant when including maternal goals in-between mothers' responsive caring and students' perceptions of mothers' responsive caring. Further, these findings could indicate that mothers' responsive caring is an essential intermediary

between maternal goals and students' outcomes because mothers' goals, or intentions, are not tangible while mothers' responsive caring is. Second, results from this alternative model emphasize that this process between mother and student originates from mothers' intentions, which further supports my proposal that the relational dynamic between mother and student offered by the interpersonal goals framework is relevant in this context. These findings suggests that mothers' intentions do matter within this process and that mothers' intentions may be one catalyst for the process by which mothers' responsive caring, students' perceptions of mothers' responsive caring, and trust contribute to student secrecy.

In a second alternative model, I tested whether students' trust predicted their perceptions of mothers' responsive caring. Results suggested an indirect effect from maternal goals to students' secrecy, but the effect was similar to that of the hypothesized model. These findings suggest that mothers' responsive caring may equally predict students' trust and students' perceptions of mothers' responsive caring. Students' trust and students' perceptions of mothers' responsive caring were highly correlated in these data which suggests that these variables may be redundant within the model. That is, the pathway between maternal goals and student secrecy could potentially be simplified by excluding students' trust or students' perceptions of mothers' responsive caring. It is possible that both constructs are not needed in the pathway from maternal goals to youth secrecy. Additionally, it is plausible that students' trust and students' perceptions of responsive caring occur simultaneously and thus cannot be distinguished via the hypothesized model. Foundational research on psychosocial development suggests that children begin to trust, or mistrust, their parents in infancy (Erikson, 1963). Further, other research suggests that mothers are especially responsible for childrens' formation of trust beliefs in early childhood (Rotenberg, 1995). Due to the strong foundations of trust present in parent-child relationships, it

is possible that children do not undergo the same cognitive process (i.e., responsiveness must be shown for responsiveness to be perceived) in trusting their parents that other dyadic pairs (e.g., roommates, friends, or significant others) experience in trusting one another.

Finally, in a third alternative model, I reversed the order of students' trust and secrecy. The high correlation between students' trust and their perceptions of mothers' responsive caring suggests that the pathway to students' secrecy could be simplified. For example, it could be that students' perception of mothers' responsive caring leads directly to students' secrecy without a consideration of students' trust. Likewise, it could be that mothers' responsive caring leads directly to students' trust which then impacts student's secrecy. A more nuanced exploration of the relationship between students' trust and students' perceptions of mothers' responsive caring is needed to better understand each of these individual paths.

**Covariates**

I also tested whether associations in the hypothesized model could be explained by mothers' general distress, students' general distress, parenting style, and students' attachment style. The indirect effect for the hypothesized model remained significant when mothers' and students general distress and parenting style were included as covariates. This indicates that the relationships in the hypothesized model were not explained by mothers' nor students' current levels of general distress. Further, findings suggest that parenting style is distinctly different from maternal goals, even though the constructs are correlated with each other.

The indirect effect of maternal goals on students' secrecy became nonsignificant when students' attachment style was included as a covariate. Covariate analyses for students' attachment style indicate that students' attachment, rather than students' trust, predicted students' secrecy as the indirect effect disappeared. As student trust and student attachment are highly

correlated with each other, this finding is not surprising. Attachment includes dimensions of trust and is associated with many outcomes within close relationships such as the expectations we form for others, the perceptions we form of others, and the overall functioning of interpersonal relationships (Mikulincer, 1995). The scale used to measure students' attachment included a degree of mutual trust subscale as one of its three dimensions. Thus, it is possible that the trust items included in the attachment scale were a better measure of trust in parent-child relationships than the dyadic trust scale used for the hypothesized model. It is also possible that in addition to trust, students' attachment captured other significant aspects of students' secrecy that were not captured in the hypothesized model.

**Theoretical Contribution**

The findings of this study are consistent with the existing literatures on trust and secrecy, The pathway from students' perceptions of mothers' responsive caring to students' trust is consistent with literature that has found that perceiving responsiveness and caring from an individual provides us with a signal that it is safe to trust them (Deutsch, 1962; Murray, 2008; Rempel et al. 1985). Further, the hypothesized model is consistent with previous research that indicates that when parents provide children with environments that are warm and understanding, they are less likely to be secretive (Padilla-Walker, et al., 2018). Findings also provide evidence that the relational processes that characterize parent-child relationships may be fundamentally different from the processes that characterize other dyadic relationships. For instance, parent-child relationships have less flexibility in some aspects of their relationship, such as in defining roles and setting boundaries, than do individuals in other types of dyadic relationships such as friends or romantic partners. These findings contribute to the existing literature in at least three ways. First, the current study provides empirical support that

compassionate and self-image goals function within parent-child relationships. Thus, techniques for facilitating higher compassionate goals and lower self-image goals could be integrated into parenting classes to aid mothers in fostering relationships with their children that are constructive, supportive, and not harmful. Second, these results indicate that mothers' intentions, rather than their behaviors, are associated with students' levels of secrecy. This implies that students can discern whether their mothers are being genuine. Thus, it could be the case that mothers behave in ways that would seem to facilitate the processes within the hypothesized pathway, if students do not perceive genuine intentions, trust could be diminished, and secrecy could increase. Third, these results support viewing child outcomes from a relational, rather than individualistic, perspective. Students' secrecy from their mother involves both the student and the mother. Thus, it is logical that considering secrecy from an interpersonal perspective, rather than as individual actions from mother or student, provides a more nuanced understanding of why students may keep secrets from their mothers.

**Limitations**

While the findings from this study are consistent with my hypotheses, there are some notable limitations. The most apparent limitation to this study concerns a lack of causality. This study used a cross-sectional design in which participants reported on their experiences retroactively. Thus, causal conclusions cannot be drawn from these results. Some of the measures asked participants to report information that, depending on the age of the student, was between two and seven years in the past. This could be problematic because participants' may remember events incorrectly, may be influenced by recent positive or negative interactions with their parent or child, or simply may not be able to recall how they felt toward their mother or their child during that timeframe. Additionally, due to the high correlations between all variables

and the cross-sectional design, it is difficult to draw clear conclusions from these findings. Future research should investigate these research questions experimentally. Maternal goals, maternal responsive caring, and students' perceptions of mothers' responsive caring could be manipulated to better understand the causal implications of maternal goals on youth secrecy.

Another limitation of this study concerns the age of the student participants. Youth, as defined by WHO (2020), includes children aged 15-24. Student participants in this study ranged in age from 18 to 24. It is possible that these relationships behave differently for youth aged 15-17 who were not included in this sample and potentially have less autonomy than the college-aged students who participated in this study. Additionally, this research could have implications for children younger than 15. This raises the question of how soon in child development the pathway from maternal goals to secrecy becomes relevant, and at what age it loses relevancy, if ever. Future research should explore these research questions using longitudinal methods to explore how these pathways change over years, but also through different developmental stages.

Finally, these data were collected on a majority W.E.I.R.D. (Western, educated, industrialized, rich, and democratic) sample. It is possible that these relationships would behave differently for individuals from different cultures, or those without W.E.I.R.D. identities. Although current data on compassionate and self-image goals show no differences in the presence of these goals across different cultures (Kuncewicz et al., 2015; Niiya et al., 2013), it is possible that these goals could be expressed differently, have different implications, or have different consequences, for those in different cultures that have not yet been discovered. For instance, the pathway between maternal goals and maternal responsive caring may look different for a mother in an individualistic culture versus one from a collectivist culture which could have implications for other pathways within the model. Further, cultural differences in parent-child

relationships may affect the association between variables in this pathway. For example, authoritarian parenting, which is generally viewed negatively, is associated with more positive outcomes for Black families than White families (LeCuyer & Swanson, 2016). Further, research indicates that cultural differences impact children's strategies for engaging with their parents (Tasopoulos-Chan et al., 2009). Future research should systematically recruit a culturally diverse sample. Additionally, analyses should explore both within group (i.e., whether everyone from a particular cultural group respond similarly, or if there a lot of variability) and between group (i.e., whether relationships differ between groups) differences.

## Conclusion

Previous research has largely considered parent and child factors for secrecy independently of each other (Hunter et al., 2011); Kapetanovic et al., 2020). The current findings suggests that there is value in viewing secrecy as a product of the parent-child relationship dynamic rather than the result of individual parent or child behaviors. The current study has the potential to improve parent-child relationships through informing parents of how their intentions impact their children's outcomes. Further, this research has the potential to inform about other relevant child outcomes. This pathway could be used to explore how maternal goals may predict other outcomes such as delinquency, academic success, or children's overall orientation toward relationships with others.

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**Appendix A**

**Measure of Mothers' Compassionate and Self-Image Goals**
*Based on compassionate and self-image goals (Crocker & Canevello, 2008)*

Scoring:
ECO: mean of 1, 3, 6, 7, 10, 14, 17, 19, 23, 27, 30

EGO: mean of 2, 4, 5, 8, 9, 11, 12, 13, 15, 16, 18, 20, 21, 22, 24, 25, 26, 28, 29, 31

| In general, in my relationship with my child, I want / try to . . . | | Not at all | A little | Somewh at | A lot | Extreme ly |
|---|---|---|---|---|---|---|
| 1. | Have compassion for my child's mistakes and weaknesses. | 1 | 2 | 3 | 4 | 5 |
| 2. | Avoid being rejected by my child. | 1 | 2 | 3 | 4 | 5 |
| 3. | Make a positive difference in my child's life. | 1 | 2 | 3 | 4 | 5 |
| 4. | Avoid taking risks or making mistakes. | 1 | 2 | 3 | 4 | 5 |
| 5. | Avoid being blamed or criticized. | 1 | 2 | 3 | 4 | 5 |
| 6. | Be supportive of my child. | 1 | 2 | 3 | 4 | 5 |
| 7. | Avoid neglecting my relationship with my child. | 1 | 2 | 3 | 4 | 5 |
| 8. | Get my child to acknowledge my positive qualities. | 1 | 2 | 3 | 4 | 5 |
| 9. | Avoid coming across as unintelligent or incompetent. | 1 | 2 | 3 | 4 | 5 |
| 10. | Avoid being selfish or self-centered. | 1 | 2 | 3 | 4 | 5 |
| 11. | Prove that I'm not a jerk. | 1 | 2 | 3 | 4 | 5 |
| 12. | Seem like I know what I'm doing. | 1 | 2 | 3 | 4 | 5 |
| 13. | Avoid making my child think that I'm a bad parent. | 1 | 2 | 3 | 4 | 5 |
| 14. | Avoid doing things that aren't helpful to me or my child. | 1 | 2 | 3 | 4 | 5 |
| 15. | Avoid looking like a failure. | 1 | 2 | 3 | 4 | 5 |
| 16. | Get my child to think that I'm nice. | 1 | 2 | 3 | 4 | 5 |
| 17. | Do things that are helpful for both me and my child. | 1 | 2 | 3 | 4 | 5 |
| 18. | Avoid showing my unlikeable side. | 1 | 2 | 3 | 4 | 5 |
| 19. | Be constructive in my comments to my child. | 1 | 2 | 3 | 4 | 5 |
| 20. | Get my child to see me as likeable. | 1 | 2 | 3 | 4 | 5 |
| 21. | Get my child to see my more admirable qualities. | 1 | 2 | 3 | 4 | 5 |
| 22. | Get my child to think that I am kind. | 1 | 2 | 3 | 4 | 5 |
| 23. | Be aware of the impact my behavior might have on my child's feelings. | 1 | 2 | 3 | 4 | 5 |
| 24. | Make my child love me. | 1 | 2 | 3 | 4 | 5 |
| 25. | Avoid disappointing my child, no matter the circumstances | 1 | 2 | 3 | 4 | 5 |
| 26. | Prove my competence to my child. | 1 | 2 | 3 | 4 | 5 |
| 27. | Avoid saying things to my child that I don't mean. | 1 | 2 | 3 | 4 | 5 |
| 28. | Avoid being seen as "uncool," | 1 | 2 | 3 | 4 | 5 |
| 29. | Avoid my child being mad at me, even for a short period of time. | 1 | 2 | 3 | 4 | 5 |
| 30. | Avoid doing anything that would be harmful to my child. | 1 | 2 | 3 | 4 | 5 |
| 31. | Get my child to admire me. | 1 | 2 | 3 | 4 | 5 |

**Appendix B**

**Measure of Mother's Responsiveness**

*Mothers' Responsiveness to Their Children Scale* (Reis et al., 2017)

Scoring: Mean of all items
Responsiveness: 1, 3, 5, 7
Insensitivity: 2, 4, 6, 8

| In my relationship with my child, I usually: | | Not at all true | | Somewhat true | | Moderately true | | Very true | | Completely true |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | … really listen to them. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2. | … do NOT accept their feelings and concerns | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3. | … seem interested in what they are thinking and feeling. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. | … ignore my child's side of the story. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. | … am understanding. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. | … dismiss my child's concerns too easily. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7. | … try to see where my child is coming from. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. | … seem to ignore the things that are most important to my child. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

# Appendix C

## Measure of Parent Bonding toward student
*Parental Bonding Instrument* (Parker et al., 1979)

Scoring: Mean of all items
Care: 1, 4, 5, 6, 7, 10, reverse: 2, 3, 8, 9, 11, 12

| This questionnaire lists various attitudes and behaviors of parents. As you remember your relationship with your child in the first 16 years would you place a tick in the most appropriate box next to each question. | | Very like | Moderately like | Moderately unlike | Very unlike |
|---|---|---|---|---|---|
| 1. | Spoke to my child in a warm and friendly voice | 3 | 2 | 1 | 0 |
| 2. | Did not help my child as much as they needed | 3 | 2 | 1 | 0 |
| 3. | Seemed emotionally cold to my child | 3 | 2 | 1 | 0 |
| 4. | Appeared to understand my child's problems and worries | 3 | 2 | 1 | 0 |
| 5. | Was affectionate to my child | 3 | 2 | 1 | 0 |
| 6. | Enjoyed talking things over with my child | 3 | 2 | 1 | 0 |
| 7. | Frequently smiled at my child | 3 | 2 | 1 | 0 |
| 8. | Did not seem to understand what my child needed or wanted | 3 | 2 | 1 | 0 |
| 9. | Made my child feel they weren't wanted | 3 | 2 | 1 | 0 |
| 10. | Could make my child feel better when they were upset | 3 | 2 | 1 | 0 |
| 11. | Did not talk with my child very much | 3 | 2 | 1 | 0 |
| 12. | Did not praise my child | 3 | 2 | 1 | 0 |

# Appendix D

## Measure of Mothers' Parenting Styles

*Parenting Styles and Dimensions Questionnaire* (Robinson et al., 2001)

Scoring:

Authoritative parenting style: mean of 1, 3, 5, 7, 9, 11, 12, 14, 18, 21, 22, 25, 27, 29, 31

Authoritarian parenting style: mean of 2, 4, 6, 10, 13, 16, 19, 23, 26, 28, 30, 32

Permissive parenting style: mean of 8, 15, 17, 20, 24

| Rate how often you exhibited the following behavior with your child when they were growing up. | | Never | Once in a while | About half the time | Very often | Always |
|---|---|---|---|---|---|---|
| 1. | I was responsive to my child's feelings or needs. | 1 | 2 | 3 | 4 | 5 |
| 2. | I used physical punishment as a way of discipling my child. | 1 | 2 | 3 | 4 | 5 |
| 3. | I took my child's desires into account before asking the child to do something. | 1 | 2 | 3 | 4 | 5 |
| 4. | When my child asked why (he)(she) had to conform, I would state: because I said so or I am your parent and I want you to. | 1 | 2 | 3 | 4 | 5 |
| 5. | I explained to my child how I felt about the child's good and bad behavior. | 1 | 2 | 3 | 4 | 5 |
| 6. | I would give spankings when my child was disobedient. | 1 | 2 | 3 | 4 | 5 |
| 7. | I encouraged my child to talk about their troubles. | 1 | 2 | 3 | 4 | 5 |
| 8. | I found it difficult to discipline my child. | 1 | 2 | 3 | 4 | 5 |
| 9. | I encouraged my child to freely express (himself)(herself) even when disagreeing with me. | 1 | 2 | 3 | 4 | 5 |
| 10. | I would punish by taking privileges away from my child with little if any explanations. | 1 | 2 | 3 | 4 | 5 |
| 11. | I emphasized the reasons for rules. | 1 | 2 | 3 | 4 | 5 |
| 12. | I would give comfort and understanding when my child was upset. | 1 | 2 | 3 | 4 | 5 |
| 13. | I would yell or shout when my child misbehaved. | 1 | 2 | 3 | 4 | 5 |
| 14. | I gave praise when my child was good. | 1 | 2 | 3 | 4 | 5 |
| 15. | I would give into my child when he/she caused a commotion about something. | 1 | 2 | 3 | 4 | 5 |
| 16. | I exploded in anger towards my child. | 1 | 2 | 3 | 4 | 5 |
| 17. | I threatened my child with punishment more often than I actually gave it. | 1 | 2 | 3 | 4 | 5 |
| 18. | I took into account my child's preferences in making plans for the family. | 1 | 2 | 3 | 4 | 5 |
| 19. | I would grab my child when he/she was being disobedient. | 1 | 2 | 3 | 4 | 5 |
| 20. | I stated punishments to my child and did not actually do them. | 1 | 2 | 3 | 4 | 5 |

| 21. | I showed respect for my child's opinions by encouraging my child to express them. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 22. | I allowed my child to give input into family rules. | 1 | 2 | 3 | 4 | 5 |
| 23. | I would scold and criticize to make my child improve. | 1 | 2 | 3 | 4 | 5 |
| 24. | I spoiled my child. | 1 | 2 | 3 | 4 | 5 |
| 25. | I gave my child reasons why rules should be obeyed. | 1 | 2 | 3 | 4 | 5 |
| 26. | I used threats as punishment with little or no justification. | 1 | 2 | 3 | 4 | 5 |
| 27. | I would have warm and intimate times together with my child. | 1 | 2 | 3 | 4 | 5 |
| 28. | I would punish my child by putting them off somewhere alone with little if any explanations. | 1 | 2 | 3 | 4 | 5 |
| 29. | I helped my child to understand the impact of behavior by encouraging my child to talk about the consequences of his/her own actions. | 1 | 2 | 3 | 4 | 5 |
| 30. | I would scold or criticize when my child's behavior wouldn't meet my expectations. | 1 | 2 | 3 | 4 | 5 |
| 31. | I explained the consequences of the child's behavior. | 1 | 2 | 3 | 4 | 5 |
| 32. | I slapped my child when the child misbehaved. | 1 | 2 | 3 | 4 | 5 |

**Appendix E**

**Measure of Students' Perceptions of Mother's Responsiveness**
*Perceived Mothers' Responsiveness Scale* (Reis et al., 2017)

Scoring: Mean of all items
Responsiveness: 1, 3, 5, 7
Insensitivity: 2, 4, 6, 8

| My mother usually… | | Not at all | | | | Completely |
|---|---|---|---|---|---|---|
| 1. | … really listens to me. | 1 | 2 | 3 | 4 | 5 |
| 2. | … does NOT accept my feelings and concerns. | 1 | 2 | 3 | 4 | 5 |
| 3. | … seems interested in what I am thinking and feeling. | 1 | 2 | 3 | 4 | 5 |
| 4. | … ignores my side of the story. | 1 | 2 | 3 | 4 | 5 |
| 5. | … is understanding. | 1 | 2 | 3 | 4 | 5 |
| 6. | … dismisses my concerns too easily. | 1 | 2 | 3 | 4 | 5 |
| 7. | … tries to see where I'm coming from. | 1 | 2 | 3 | 4 | 5 |
| 8. | … seems to ignore the things that are most important to me. | 1 | 2 | 3 | 4 | 5 |

**Appendix F**

**Measure of Students' Bonding Toward Mothers**
*Parental Bonding Instrument* (Parker et al., 1979)

Scoring: Mean of all items
Care: 1, 4, 5, 6, 7, 10, reverse: 2, 3, 8, 9, 11, 12

| This questionnaire lists various attitudes and behaviors of parents. As you remember your mother in your first 16 years would you place a tick in the most appropriate box next to each question. | | Very like | Moderately like | Moderately unlike | Very unlike |
|---|---|---|---|---|---|
| 1. | Spoke to me in a warm and friendly voice | 3 | 2 | 1 | 0 |
| 2. | Did not help me as much as I needed | 3 | 2 | 1 | 0 |
| 3. | Seemed emotionally cold to me | 3 | 2 | 1 | 0 |
| 4. | Appeared to understand my problems and worries | 3 | 2 | 1 | 0 |
| 5. | Was affectionate to me | 3 | 2 | 1 | 0 |
| 6. | Enjoyed talking things over with me | 3 | 2 | 1 | 0 |
| 7. | Frequently smiled at me | 3 | 2 | 1 | 0 |
| 8. | Did not seem to understand what I needed or wanted | 3 | 2 | 1 | 0 |
| 9. | Made me feel I wasn't wanted | 3 | 2 | 1 | 0 |
| 10. | Could make me feel better when I was upset | 3 | 2 | 1 | 0 |
| 11. | Did not talk with me very much | 3 | 2 | 1 | 0 |
| 12. | Did not praise me | 3 | 2 | 1 | 0 |

# Appendix G

## Measure of Students' Trust in Mothers

*Dyadic Trust Scale* (Larzelere & Huston, 1980)

Scoring: Mean of all items, reverse 3, 4, 5, 7, 8

| Please respond to the following statements indicating how strongly you agree with the statements below. Please be as honest as you can. | Strongly Disagree | | | | | | Strongly Agree |
|---|---|---|---|---|---|---|---|
| 1 My mother is primarily interested in her own welfare. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 There are times when my mother cannot be trusted. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 My mother is perfectly honest and truthful with me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 I feel that I can trust my mother completely. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 My mother is truly sincere in his (her) promises. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 I feel that my mother does not show me enough consideration. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 My mother treats me fairly and justly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 feel that my mother can be counted on to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

# Appendix H

## Measure of Students' Secrecy

*Self-Concealment Scale (SCS)* (Larson & Chastain, 1990)

Scoring: Mean of all items

| This scale measures self-concealment defined here as a tendency to conceal from others personal information that one perceives as distressing or negative. Please tick the box, to the right of each of the following 10 statements, that best describes how much you personally agree or disagree with the statement. | Strongly disagree | Moderately disagree | Don't disagree or agree | Moderately agree | Strongly agree |
|---|---|---|---|---|---|
| 1. I have an important secret that I haven't shared with my mother | 1 | 2 | 3 | 4 | 5 |
| 2. If I shared all my secrets with my mother, they'd like me less | 1 | 2 | 3 | 4 | 5 |
| 3. There are lots of things about me that I keep to myself | 1 | 2 | 3 | 4 | 5 |
| 4. Some of my secrets have really tormented me | 1 | 2 | 3 | 4 | 5 |
| 5. When something bad happens to me, I tend to keep it to myself | 1 | 2 | 3 | 4 | 5 |
| 6. I'm often afraid I'll reveal something I don't want to | 1 | 2 | 3 | 4 | 5 |
| 7. Telling a secret often backfires and I wish I hadn't told it | 1 | 2 | 3 | 4 | 5 |
| 8. I have a secret that is so private I would lie if my mother asked me about it | 1 | 2 | 3 | 4 | 5 |
| 9. My secrets are too embarrassing to share with my mother | 1 | 2 | 3 | 4 | 5 |
| 10. I have negative thoughts about myself that I never share with my mother | 1 | 2 | 3 | 4 | 5 |

**Appendix I**

**Measure of Students' Attachment to Mothers**

*Inventory of Peer and Parent Attachment* (Armsden & Greenberg, 1987)

Scoring: Mean of all items, reverse 3, 6, 8, 9, 10, 11, 14, 17, 18, 23

| This questionnaire asks about your relationships with your mother. Each of the following statements asks about your feelings about your mother or the woman who has acted as your mother (e.g., a natural mother and a stepmother). Answer the questions for the one you feel has most influenced you | Almost ever or never true | Not very often true | Sometimes true | Often true | Almost always or always true |
|---|---|---|---|---|---|
| 1. My mother respects my feelings | 1 | 2 | 3 | 4 | 5 |
| 2. I feel my mother does a good job as my mother. | 1 | 2 | 3 | 4 | 5 |
| 3. I wish I had a different mother. | 1 | 2 | 3 | 4 | 5 |
| 4. My mother accepts me as I am. | 1 | 2 | 3 | 4 | 5 |
| 5. I like to get my mother's point of view on things I'm concerned about. | 1 | 2 | 3 | 4 | 5 |
| 6. I feel it's no use letting my feelings show around my mother. | 1 | 2 | 3 | 4 | 5 |
| 7. My mother can tell when I'm upset about something. | 1 | 2 | 3 | 4 | 5 |
| 8. Talking over my problems with my mother makes me feel ashamed or foolish. | 1 | 2 | 3 | 4 | 5 |
| 9. My mother expects too much from me. | 1 | 2 | 3 | 4 | 5 |
| 10. I get upset easily around my mother. | 1 | 2 | 3 | 4 | 5 |
| 11. I get upset a lot more than my mother knows about. | 1 | 2 | 3 | 4 | 5 |
| 12. When we discuss things, my mother cares about my point of view. | 1 | 2 | 3 | 4 | 5 |
| 13. My mother trusts my judgment. | 1 | 2 | 3 | 4 | 5 |
| 14. My mother has her own problems, so I don't bother her with mine. | 1 | 2 | 3 | 4 | 5 |
| 15. My mother helps me understand myself better. | 1 | 2 | 3 | 4 | 5 |
| 16. I tell my mother about my problems and troubles. | 1 | 2 | 3 | 4 | 5 |
| 17. I feel angry with my mother. | 1 | 2 | 3 | 4 | 5 |
| 18. I don't get much attention from my mother. | 1 | 2 | 3 | 4 | 5 |
| 19. My mother helps me talk about my difficulties. | 1 | 2 | 3 | 4 | 5 |
| 20. My mother understands me. | 1 | 2 | 3 | 4 | 5 |
| 21. When I am angry about something, my mother tries to be understanding. | 1 | 2 | 3 | 4 | 5 |
| 22. I trust my mother. | 1 | 2 | 3 | 4 | 5 |
| 23. My mother doesn't understand what I'm going through these days. | 1 | 2 | 3 | 4 | 5 |
| 24. I can count on my mother when I need to get something off my chest. | 1 | 2 | 3 | 4 | 5 |
| 25. If my mother knows something is bothering me, she asks me about it. | 1 | 2 | 3 | 4 | 5 |

# Appendix J

## Measure of General Distress
Depression Anxiety Stress Scales (DASS-21) (Lovibond & Lovibond, 1995

Scoring: Multiply mean by 2

| Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. | Did not apply to me at all | Applied to me to some degree, or some of the time | Applied to me a considerable degree, or a good part of time | Applied to me very much, or most of the time |
|---|---|---|---|---|
| 1. I found it hard to wind down | 0 | 1 | 2 | 3 |
| 2. I was aware of dryness of my mouth | 0 | 1 | 2 | 3 |
| 3. I couldn't seem to experience any positive feelings at all | 0 | 1 | 2 | 3 |
| 4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 | 1 | 2 | 3 |
| 5. I found it difficult to work up the initiative to do things | 0 | 1 | 2 | 3 |
| 6. I tended to over-react to situations | 0 | 1 | 2 | 3 |
| 7. I experienced trembling (e.g., in the hands) | 0 | 1 | 2 | 3 |
| 8. I felt that I was using a lot of nervous energy | 0 | 1 | 2 | 3 |
| 9. I was worried about situations in which I might panic and make a fool of myself | 0 | 1 | 2 | 3 |
| 10. I felt that I had nothing to look forward to | 0 | 1 | 2 | 3 |
| 11. I found myself getting agitated | 0 | 1 | 2 | 3 |
| 12. I found it difficult to relax | 0 | 1 | 2 | 3 |
| 13. I felt down-hearted and blue | 0 | 1 | 2 | 3 |
| 14. I was intolerant of anything that kept me from getting on with what I was doing | 0 | 1 | 2 | 3 |
| 15. I felt I was close to panic | 0 | 1 | 2 | 3 |
| 16. I was unable to become enthusiastic about anything | 0 | 1 | 2 | 3 |
| 17. I felt I wasn't worth much as a person | 0 | 1 | 2 | 3 |
| 18. I felt that I was rather touchy | 0 | 1 | 2 | 3 |
| 19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat) | 0 | 1 | 2 | 3 |
| 20. I felt scared without any good reason | 0 | 1 | 2 | 3 |
| 21. I felt that life was meaningless | 0 | 1 | 2 | 3 |

**Table 1**

*Student Demographics and Descriptive Statistics*

|  | N | M (SD) | % |
|---|---|---|---|
| Age |  | 18.87 (1.13) |  |
|  |  |  |  |
| Gender |  |  |  |
|   Female | 139 |  | 71% |
|   Male | 53 |  | 27% |
|   Other | 4 |  | 2% |
|  |  |  |  |
| Ethnicity |  |  |  |
|   White | 121 |  | 63..62% |
|   Black or African American | 26 |  | 13% |
|   American Indian or Alaska Native | 5 |  | 3% |
|   Asian | 25 |  | 13% |
|   Hispanic | 6 |  | 3% |
|   Multiracial | 7 |  | 4% |
|   Other | 3 |  | 2% |
|  |  |  |  |
| Relationship with mother |  | 1.11 (.59) |  |
|   Biological Mother | 189 |  | 96% |
|   Adoptive Mother | 4 |  | 2% |
|   Stepmother | 1 |  | .5% |
|   Other | 2 |  | 1% |
|  |  |  |  |
| Interaction with mother |  | 2.10 (1.18) |  |
|   Daily | 85 |  | 43% |
|   Several times a day | 39 |  | 20% |
|   Several times a week | 47 |  | 24% |
|   Once a week | 20 |  | 10% |
|   2 or 3 times a month | 3 |  | 2% |
|   Once a month or less | 2 |  | 1% |
|  |  |  |  |
| Living Situation |  | 1.97 (.72) |  |
|   A dorm or other school housing | 103 |  | 52% |
|   At home with Parent(s) | 51 |  | 26% |
|   Own house or apartment | 39 |  | 20% |

*Note.* $N$ = 196 students. Participant ages ranged from 18-24. For relationship with mother (1= biological mother, 2 = Stepmother, 3 = adoptive mother, 4 = grandmother (not chosen by participants), 5 = Other). Scale for interaction with mother ranged from 1 (*daily)* to 6 (*Once a month or less*). For students' living situation (1 = At home with parents, 2 = dorm or other school housing, 3 = own house or apartment, 4 = other)

**Table 2**

*Mother Demographics and Descriptive Statistics*

|  | M | SD |
|---|---|---|
| Age | 48.59 | 5.66 |
| Annual Household income | 7.36 | 3.65 |
| Social Economic Status | 6.37 | 1.45 |
| Number of children | 2.70 | 1.23 |
| Primary Caregiver Status | 1.04 | .28 |

*Note.* $N$ = 196 mothers. Participant ages ranged from 36-61. Annual household income ranged from 1 (*less than 30,000)* to 11 (*120,000 or more*). Socioeconomic status was measured with a picture of a ladder that represented where people stand in the US in which the top (10) represented the people that were the best off and the bottom (1) represented people who are the worse off. Number of children ranged from 1 child to 10 children. Primary caregiver status was measured on scale in which 0 = they were not the primary caregiver of the student, 1 = they were the primary caregiver, or 3 other.

**Table 3**

*Student Zero-Order Correlations and Descriptive Statistics*

| | 1 | 2 | 3 | 4 | M | SD |
|---|---|---|---|---|---|---|
| 1. Students' Perceptions of Mothers' Responsive Caring | | | | | 0.00 | .94 |
| 2. Trust | .81** | | | | 5.88 | 1.23 |
| 3. Secrecy | -.61** | -.59** | | | 2.79 | 1.12 |
| 4. Student Attachment | .87** | .81** | -.74** | | 3.99 | .78 |
| 5. Students' General Distress | -.56** | -.53** | .56** | -.53** | 1.74 | 1.40 |

*Note.* $N = 196$. ** = $p < .001$. All measures used a 5-point scale except Trust (7-point scale) and Students' general distress (4-point scale, ranging from 0-3). Student General Distress was measured by combining the depression, anxiety, and stress values from the Depression, Anxiety, and Stress Scale (DASS) into one score.

**Table 4**

*Mother Zero-Order Correlations and Descriptive Statistics*

| | 1 | 2 | 3 | 4 | 5 | 6 | M | SD |
|---|---|---|---|---|---|---|---|---|
| 1. Compassionate Goals | | | | | | | 4.35 | .47 |
| 2. Self-Image Goals | .30** | | | | | | 3.09 | .87 |
| 3. Mothers' Responsive Caring | .47** | -.10 | | | | | .00 | .89 |
| 4. Authoritative Parenting Style | .40** | .02 | .58** | | | | 3.89 | .59 |
| 5. Authoritarian Parenting Style | -.15* | .26** | -.44** | -.31** | | | 1.81 | .54 |
| 6. Permissive Parenting Style | .05 | .22** | -.24** | -.15* | .43** | | 2.20 | .65 |
| 7. Mothers' General Distress | -.04 | .09 | -.17* | -.09 | .19** | .30** | .69 | .84 |

*Note.* $N$ = 196. * = p < .05 ** = p <. 001 All measures used a 5-point scale except mothers' general distress (4-point scale, ranging from 0-3). Mothers' General Distress was measured by combining the depression, anxiety, and stress values from the Depression, Anxiety, and Stress Scale (DASS) into one score. Mothers' Responsive Caring is a composite of the Reis and colleagues (2017) responsiveness scale and the caring items from the Parental Bonding Instrument (PBI).

**Table 5**

*Correlations Between Mothers' Variables and Students' Variables*

| | Students' Perceptions of Mothers' Responsive Caring | Student Trust | Student Secrecy | Student Attachment | Student General Distress |
|---|---|---|---|---|---|
| 1. Compassionate Goals | .28** | .27** | -.24** | .31** | -.15* |
| 2. Self-Image Goals | -.18* | -.14 | .17* | -.14 | .10 |
| 3. Mothers' Responsive Caring | .71** | .57** | -.46** | .62** | -.47** |
| 4. Authoritative Parenting Style | .39** | .28** | -.27** | .38** | -.21** |
| 5. Authoritarian Parenting Style | -.38** | -.36** | .28** | -.30** | .25** |
| 6. Permissive Parenting Style | -.26** | -.23** | .19** | -.19** | .20** |
| 7. Mothers' General Distress | -.13 | -.15* | .11 | -.10 | .26** |

*Note.* * = p < .05 ** = p < .001.

**Table 6**

*Coefficients for Phase 1: Primary Analyses*

| | *β* | *SE* | *t* | *p* | *95% CI* |
|---|---|---|---|---|---|
| **MODEL: Mothers' Compassionate and Self-Image Goals → Mothers' Responsive Caring → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .55 | .06 | 8.62 | <.001 | [.42, .68] |
| Mothers' Self-Image Goals (Path B) | -.27 | .06 | -4.25 | <.001 | [-.40, -.15] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Responsive Caring | .72 | .06 | 12.19 | <.001 | [.60, .84] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.03 | .06 | -.54 | .588 | [-.16, .09] |
| Mothers' Self-Image Goals | -.09 | .05 | -1.67 | .096 | [-.20, .02] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .82 | .06 | 13.21 | <.001 | [.69, .94] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | .08 | .05 | 1.48 | .142 | [-.03, .18] |
| Mothers' Responsive Caring | -.05 | .07 | -.75 | .456 | [-.18, .08] |
| Mothers' Self-Image Goals | -.02 | .05 | -.41 | .681 | [-.11, .07] |
| | | | | | |
| DV: Students' Secrecy (Path E) | | | | | |
| Students' Trust | -.27 | .09 | -2.82 | <.01 | [-.45, -.08] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.10 | .07 | -1.42 | .158 | [-.23, .04] |
| Mothers' Responsive Caring | -.00 | .09 | -.04 | .972 | [-.18, .17] |
| Students' Perceptions of Mothers' Responsive Caring | -.35 | .11 | -3.11 | <.01 | [-.57, -.13] |
| Mothers' Self-Image Goals | .10 | .06 | 1.70 | .090 | [-.02, .23] |
| | | | | | |
| Direct Effects | | | | | |
| Compassionate Goals | -.10 | .07 | -1.42 | .158 | [-.23, .04] |
| Self-Image Goals | .10 | .06 | 1.70 | .090 | [-.02, .23] |
| | | | | | |
| Indirect Effects | | | | | |
| Compassionate Goals | -.09 | .03 | | | [-.16, -.03] |
| Self-Image Goals | .04 | .02 | | | [.01, .08] |

*Note. N = 196 dyads. All variables were standardized.*

**Table 7**

*Coefficients for Phase 2: Covariates – Mothers' Parenting Style*

| | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **MODEL: Goals → Mothers' Responsive Caring → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .34 | .06 | 5.64 | <.001 | [.22, .46] |
| Mothers' Self-Image Goals (Path B) | -.14 | .06 | -2.52 | <.05 | [-.26, -.03] |
| Mothers' Parenting Style | | | | | |
| Authoritative | .37 | .06 | 6.36 | <.001 | [.26, .49] |
| Authoritarian | -.19 | .06 | -3.13 | <.01 | [-.31, -.07] |
| Permissive | -.09 | .06 | -1.48 | .142 | [-.20, .03] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Responsive Caring | .70 | .07 | 9.98 | <.001 | [.56, .84] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.02 | .06 | -.37 | .713 | [-.15, .10] |
| Mothers' Self-Image Goals | -.07 | .06 | -1.29 | .197 | [-.19, .04] |
| Mothers' Parenting Style | | | | | |
| Authoritative | -.03 | .06 | -.41 | .679 | [-.15, .10] |
| Authoritarian | -.04 | .06 | -.62 | .536 | [-.16, .08] |
| Permissive | -.06 | .06 | -.98 | .326 | [-.17, .06] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .81 | .06 | 13.02 | <.001 | [.68, .93] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | .09 | .05 | 1.62 | .108 | [-.02, .19] |
| Mothers' Responsive Caring | -.04 | .07 | -.59 | .558 | [-.19, .10] |
| Mothers' Self-Image Goals | .00 | .05 | .06 | .955 | [-.09, .10] |
| Mothers' Parenting Style | | | | | |
| Authoritative | -.07 | .05 | -1.31 | .191 | [-.18, .04] |
| Authoritarian | -.08 | .05 | -1.62 | .107 | [-.19, .02] |
| Permissive | -.01 | .05 | -.20 | .840 | [-.10, .09] |
| | | | | | |
| DV: Students' Secrecy (Path E) | | | | | |
| Students' Trust | -.27 | .10 | -2.77 | <.01 | [-.46, -.08] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.10 | .07 | -1.34 | .181 | [-.24, .04] |
| Mothers' Responsive Caring | .02 | .10 | .18 | .858 | [-.18, .21] |
| Students' Perceptions of Mothers' Responsive Caring | -.34 | .11 | -3.06 | <.01 | [-.57, -.12] |
| Mothers' Self-Image Goals | .10 | .06 | 1.59 | .113 | [-.02, .23] |
| Mothers' Parenting Style | | | | | |
| Authoritative | -.03 | .07 | -.40 | .687 | [-.17, .11] |
| Authoritarian | .01 | .07 | .11 | .916 | [-.13, .14] |

| | | | | | |
|---|---|---|---|---|---|
| Permissive | .02 | .06 | .25 | .805 | [-.11, .14] |

Direct Effects

| | | | | | |
|---|---|---|---|---|---|
| Compassionate Goals | -.10 | .07 | -1.34 | .181 | [-.24, .04] |
| Self-Image Goals | .10 | .06 | 1.59 | .113 | [-.02, .23] |

Indirect Effects

| | | | | | |
|---|---|---|---|---|---|
| Compassionate Goals | -.05 | .02 | | | [-.10, -.02] |
| Self-Image Goals | .02 | .01 | | | [.00, .05] |

**Table 8**

*Coefficients for Phase 2: Covariates – Student Attachment*

| | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **MODEL: Goals → Mothers' Responsive Caring → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .36 | .06 | 6.19 | <.001 | [.25, .48] |
| Mothers' Self-Image Goals (Path B) | -.15 | .06 | -2.65 | <.01 | [-.26, - .03] |
| *Covariate* | | | | | |
| Student Attachment | .48 | .06 | 8.62 | <.001 | [.35, .57] |
| | | | | | |
| DV: Students' Perceptions of Mothers Responsive Caring (Path C) | | | | | |
| *Mothers' Responsive Caring* | .33 | .04 | 7.54 | <.001 | [.24, .41] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.08 | .04 | -2.21 | <.05 | [-.16, -.01] |
| Mothers' Responsive Caring | .33 | .04 | 7.54 | <.001 | [.24, .41] |
| Mothers' Self-Image Goals | -.02 | .03 | -.68 | .495 | [-.09, .04] |
| Student Attachment | .69 | .04 | 17.46 | <.001 | [.61, .77] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .42 | .09 | 4.50 | <.001 | [.23, .60] |
| *Covariate* | | | | | |
| Mothers' Compassionate Goals | .03 | .05 | .63 | .531 | [-.07, .13] |
| Mothers' Responsive Caring | -.02 | .06 | -.30 | .761 | [-.14, .11] |
| Mothers' Self-Image Goals | -.01 | .04 | -.27 | .789 | [-.10, .08] |
| Student Attachment | .45 | .08 | 5.48 | <.001 | [.29, .61] |
| | | | | | |
| DV: Students' Secrecy (Path E) | | | | | |
| Students' Trust | -.00 | .09 | -.01 | .995 | [-.17, .17] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.03 | .06 | -.47 | .641 | [-.15, .09] |
| Mothers' Responsive Caring | -.05 | .08 | -.66 | .508 | [-.20, .10] |
| Students' Perceptions of Mothers' Responsive Caring | .21 | .12 | 1.81 | .072 | [-.02, .44] |
| Mothers' Self-Image Goals | .10 | .05 | 1.79 | .074 | [-.01, .20] |
| Student Attachment | -.87 | .11 | -8.23 | <.001 | [-1.08, -.66] |
| | | | | | |
| Direct Effects | | | | | |
| Compassionate Goals | -.03 | .06 | -.47 | .641 | [-.15, .09] |
| Self-Image Goals | .10 | .05 | 1.80 | .074 | [-.01, .20] |

| Indirect Effects | | | |
|---|---|---|---|
| Compassionate Goals | *.00* | *.01* | *[-.01, .01]* |
| Self-Image Goals | *.00* | *.00* | *[-.01, .00]* |

**Table 9**

*Path Coefficients, Direct and Indirect Effects for Phase 2: Covariates – Student General Distress*

| | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **MODEL: Goals → Mothers' Responsive Caring → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .48 | .06 | 8.09 | <.001 | [.36, .59] |
| Mothers' Self-Image Goals (Path B) | -.21 | .06 | -3.62 | <.001 | [-.33, -.10] |
| *Covariate* | | | | | |
| Student General Distress | -.37 | .06 | -6.64 | <.001 | [-.48, -.26] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Responsive Caring | .58 | .06 | 9.433 | <.001 | [.46, .70] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.01 | .06 | -.20 | .839 | [-.13, .10] |
| Mothers' Self-Image Goals | -.08 | .05 | -1.66 | .099 | [-.19, -.02] |
| Students' General Distress | -.29 | .05 | -5.46 | <.001 | [-.39, -.18] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .76 | .07 | 11.58 | <.001 | [.63, .89] |
| *Covariates* | | | | | |
| Compassionate Goals | .08 | .05 | 1.59 | .112 | [-.02, .19] |
| Mothers' Responsive Caring | -.06 | .06 | -1.63 | .301 | [-.20, .06] |
| Mothers' Self-Image Goals | -.02 | .05 | -.46 | .643 | [-.11, .07] |
| Students' General Distress | -.12 | .05 | -2.29 | <.05 | [-.22, -.02] |
| | | | | | |
| DV: Students' Secrecy (Path E) | | | | | |
| Students' Trust | -.20 | .09 | -2.16 | <.05 | [-.38, -.02] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.12 | .07 | -1.85 | .066 | [-.25, .01] |
| Mothers' Responsive Caring | .05 | .08 | .60 | .551 | [-.12, .22] |
| Students' Perceptions of Mothers' Responsive Caring | -.26 | .11 | -2.42 | <.05 | [-.47, -.05] |
| Mothers' Self-Image Goals | .11 | .06 | 1.92 | .057 | [-.00, .23] |
| Students' General Distress | .31 | .07 | 4.69 | <.001 | [.18, .44] |
| | | | | | |
| Direct Effects | | | | | |
| *Compassionate Goals* | -.12 | .07 | -1.85 | .066 | [-.25, .01] |

| | | | | | |
|---|---|---|---|---|---|
| *Self-Image Goals* | .11 | .06 | 1.92 | .057 | [-.00, .23] |

<u>Indirect Effects</u>

| | | | | | |
|---|---|---|---|---|---|
| *Compassionate Goals* | -.04 | .02 | | | [-.09, -.01] |
| *Self-Image Goals* | .02 | .01 | | | [.00, .04] |

**Table 10**

*Coefficients for Phase 2: Correlations – Mothers' General*

| | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **MODEL: Goals → Mothers' Responsive Caring → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .54 | .06 | 8.52 | <.001 | [.42, .67] |
| Mothers' Self-Image Goals (Path B) | -.26 | .06 | -4.08 | <.001 | [-.39, -.13] |
| *Covariate* | | | | | |
| Mothers' General Distress | -.12 | .06 | -1.94 | .053 | [-.24, .00] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Responsive Caring | .72 | .06 | 11.94 | <.001 | [.60, .84] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.03 | .06 | -.51 | .610 | [-.15, .09] |
| Self-Image Goals | -.09 | .06 | -1.71 | .089 | [-.20, -.01] |
| Mothers' General Distress | .00 | .05 | .03 | .979 | [-.10, .10] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .82 | .06 | 13.17 | <.001 | [.69, .94] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | .08 | .05 | 1.49 | .138 | [-.03, .18] |
| Mothers' Responsive Caring | -.06 | .07 | -.87 | .384 | [-.19, .07] |
| Mothers' Self-Image Goals | -.02 | .05 | -.34 | .736 | [-.11, .08] |
| Mothers' General Distress | -.05 | .04 | -1.20 | .230 | [-.14, .03] |
| | | | | | |
| DV: Students' Secrecy (Path E) | | | | | |
| Students' Trust | -.26 | .09 | -2.78 | <.01 | [-.45, -.08] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.10 | .07 | -1.46 | .145 | [-.24, .04] |
| Mothers' Responsive Caring | .00 | .09 | .01 | .993 | [-.17, .18] |
| Students' Perceptions of Mothers' Responsive Caring | -.34 | .11 | -3.06 | <.01 | [-.56, -.12] |
| Mothers' Self-Image Goals | .11 | .06 | 1.77 | .079 | [-.01, .23] |
| Mothers' General Distress | .01 | .06 | .18 | .861 | [-.10, .12] |
| | | | | | |
| Direct Effects | | | | | |
| *Compassionate Goals* | -.10 | .07 | -1.46 | .146 | [-.24, .04] |
| *Self-Image Goals* | .11 | .06 | 1.77 | .079 | [-.01, .23] |

| | | | |
|---|---|---|---|
| <u>Indirect Effects</u> | | | |
| *Compassionate Goals* | *-.08* | *.03* | *[-.16, -.03]* |
| *Self-Image Goals* | *.04* | *.02* | *[.01, .08]* |

**Table 11**

*Coefficients for Phase 3: Alternative Analyses – Alternative Model 1*

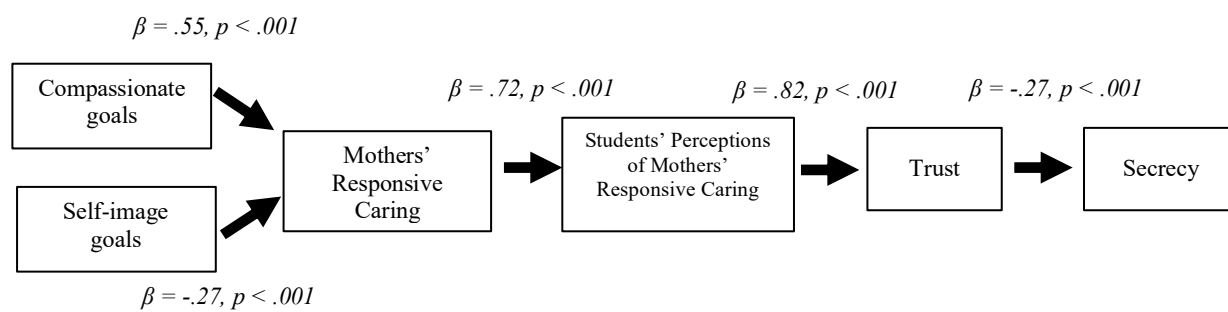| | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **ALTERNATIVE MODEL 1: Mothers' Responsive Caring → Goals → Students' Perceptions of Mothers' Responsive Caring → Students' Trust → Students' Secrecy** | | | | | |
| DV: Mothers' Compassionate Goals (Path A) | | | | | |
| Mothers' Responsive Caring | .51 | .06 | 8.62 | <.001 | [.39, .62] |
| *Covariate* | | | | | |
| Mothers' Self-Image Goals (Path B) | .35 | .06 | 6.04 | <.001 | [.24, .47] |
| | | | | | |
| DV: Mothers' Self-Image Goals (Path B) | | | | | |
| Mothers' Responsive Caring | -.31 | .07 | -4.25 | <.001 | [-.46, -.17] |
| *Covariate* | | | | | |
| Mothers' Compassionate Goals | .45 | .07 | 6.04 | <.001 | [.30, .60] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Compassionate Goals | -.03 | .06 | -.54 | .588 | [-.16, .09] |
| Mothers' Self-Image Goals | -.09 | .05 | -1.67 | .096 | [-.20, .02] |
| *Covariate* | | | | | |
| Mothers' Responsive Caring | .72 | .06 | 12.19 | <.001 | [.60, .84] |
| | | | | | |
| DV: Students' Trust (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | .82 | .06 | 13.21 | <.001 | [.69, .94] |
| *Covariates* | | | | | |
| Mothers' Responsive Caring | -.05 | .07 | -.75 | .455 | [-.18, .08] |
| Mothers' Compassionate Goals | .08 | .05 | 1.48 | .142 | [-.03, .18] |
| Mothers' Self-Image Goals | -.02 | .05 | -.41 | .681 | [-.11, .07] |
| | | | | | |
| DV: Student Secrecy (Path E) | | | | | |
| Students' Trust | -.27 | .09 | -2.82 | <.01 | [-.45, -.08] |
| *Covariates* | | | | | |
| Mothers' Responsive Caring | -.00 | .09 | -.04 | .972 | [-.18, .17] |
| Mothers' Compassionate Goals | -.10 | .07 | -1.42 | .157 | [-.23, .04] |
| Students' Perceptions of Mothers' Responsive Caring | -.35 | .11 | -3.11 | <.01 | [-.57, -.13] |
| Mothers' Self-Image Goals | .10 | .06 | 1.70 | .090 | [-.02, .23] |
| | | | | | |
| Direct Effect | | | | | |
| *Mothers' Responsive Caring (Paths A & B)* | -.00 | .09 | -.04 | .972 | [-.18, .17] |
| | | | | | |
| Indirect Effects | | | | | |
| *Mothers' Responsive Caring (Path A)* | .00 | .01 | | | [-.01, .02] |
| *Mothers' Responsive Caring (Path B)* | -.01 | .00 | | | [-.02, .00] |

**Table 12**

*Coefficients for Phase 3: Alternative Analyses – Alternative Model 2*

| | *β* | *SE* | *t* | *p* | *95% CI* |
|---|---|---|---|---|---|
| **ALTERNATIVE MODEL 2: Goals → Mothers' Responsive Caring → Students' Trust → Students' Perceptions of Mothers' Responsive Caring → Students' Secrecy** | | | | | |
| <u>DV: Mothers' Responsive Caring (Paths A & B)</u> | | | | | |
| Compassionate Goals (Path A) | .55 | .06 | 8.62 | <.001 | [.42, .68] |
| Self-Image Goals (Path B) | -.27 | .06 | -4.25 | <.001 | [-.40, -.15] |
| | | | | | |
| <u>DV: Students' Trust (Path C)</u> | | | | | |
| Mothers' Responsive Caring | .54 | .07 | 7.70 | <.001 | [.40, .67] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | .05 | .07 | .70 | .488 | [-.09, .19] |
| Mothers' Self-Image Goals | -.09 | .06 | -1.46 | .147 | [-.22, .03] |
| | | | | | |
| <u>DV: Students' Perceptions of Mothers' Responsive Caring (Path D)</u> | | | | | |
| Students' Trust | .59 | .04 | 13.21 | <.001 | [.50, .67] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.06 | .04 | -1.41 | .160 | [-.15, .03] |
| Mothers' Responsive Caring | .41 | .05 | 8.29 | <.001 | [.31, .50] |
| Mothers' Self-Image Goals | -.04 | .04 | -.91 | .362 | [-.12, .04] |
| | | | | | |
| <u>DV: Secrecy (Path E)</u> | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | -.35 | .11 | -3.11 | <.01 | [-.57, -.13] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.10 | .07 | -1.42 | .158 | [-.23, .04] |
| Mothers' Responsive Caring | -.00 | .09 | -.04 | .972 | [-.18, .17] |
| Students' Trust | -.27 | .09 | -2.82 | <.01 | [-.45, -.08] |
| Mothers' Self-Image Goals | .10 | .06 | 1.70 | .090 | [-.02, .23] |
| | | | | | |
| <u>Direct Effects</u> | | | | | |
| Compassionate Goals | -.10 | .07 | -1.42 | .158 | [-.23, .04] |
| Self-Image Goals | .10 | .06 | 1.70 | .090 | [-.02, .23] |
| | | | | | |
| <u>Indirect Effects</u> | | | | | |
| Compassionate Goals | -.06 | .03 | | | [-.12, -.02] |
| Self-Image Goals | .03 | .01 | | | [.01, .06] |

**Table 13**

*Coefficients for Phase 3: Alternative Analyses – Alternative Model 3*

|  | β | SE | t | p | 95% CI |
|---|---|---|---|---|---|
| **ALTERNATIVE MODEL 3: Goals → Mothers' Responsive Caring → Students' Perceptions of Responsive Caring → Students' Secrecy → Students' Trust** | | | | | |
| DV: Mothers' Responsive Caring (Paths A & B) | | | | | |
| Mothers' Compassionate Goals (Path A) | .55 | .06 | 8.62 | <.001 | [.42, .68] |
| Mothers' Self-Image Goals (Path B) | -.27 | .06 | -4.25 | <.001 | [-.40, -.15] |
| | | | | | |
| DV: Students' Perceptions of Mothers' Responsive Caring (Path C) | | | | | |
| Mothers' Responsive Caring | .72 | .05 | 12.19 | <.001 | [.60, .84] |
| *Covariate* | | | | | |
| Mothers' Compassionate Goals | -.03 | .06 | -.54 | .588 | [-.16, .09] |
| Mothers' Self-Image Goals | -.00 | .05 | -1.67 | .096 | [-.20, .02] |
| | | | | | |
| DV: Students' Secrecy (Path D) | | | | | |
| Students' Perceptions of Mothers' Responsive Caring | -.56 | .08 | -6.87 | <.001 | [-.73, -.40] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | -.12 | .07 | -1.70 | .092 | [-.26, .02] |
| Mothers' Responsive Caring | .01 | .09 | .12 | .908 | [-.17, .17] |
| Mothers' Self-Image Goals | .11 | .06 | 1.76 | .081 | [-.01, .23] |
| | | | | | |
| DV: Students' Trust (Path E) | | | | | |
| Students' Secrecy | -.15 | .05 | -2.82 | <.01 | [-.26, -.05] |
| *Covariates* | | | | | |
| Mothers' Compassionate Goals | .06 | .05 | 1.15 | .252 | [-.04, .16] |
| Mothers' Responsive Caring | -.05 | .07 | -.74 | .461 | [-.18, .08] |
| Students' Perceptions of Mothers' Responsive Caring | .73 | .07 | 10.79 | <.001 | [-.60, -.86] |
| Mothers' Self-Image Goals | -.00 | .05 | -.060 | .952 | [-.09, .09] |
| | | | | | |
| Direct Effects | | | | | |
| Compassionate Goals | .05 | .05 | 1.15 | .252 | [-.04, .16] |
| Self-Image Goals | -.00 | .05 | -.06 | .952 | [-.09, .09] |
| | | | | | |
| Indirect Effects | | | | | |
| Compassionate Goals | .03 | .01 | | | [.01, .06] |
| Self-Image Goals | -.02 | .01 | | | [-.03, -.00] |

**Figure 2.**

*Findings for Hypothesized Model*



β = .55, p < .001

Compassionate goals

β = .72, p < .001   β = .82, p < .001   β = -.27, p < .001

Self-image goals

Mothers' Responsive Caring

Students' Perceptions of Mothers' Responsive Caring
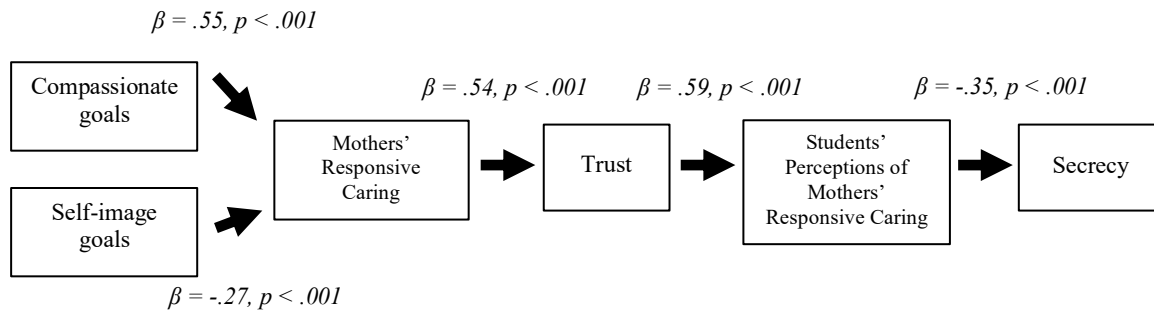
Trust

Secrecy

β = -.27, p < .001

**Figure 3**

*Pathway for Alternative Model 1 – Reversing Maternal Goals and Mothers' Responsive Caring*
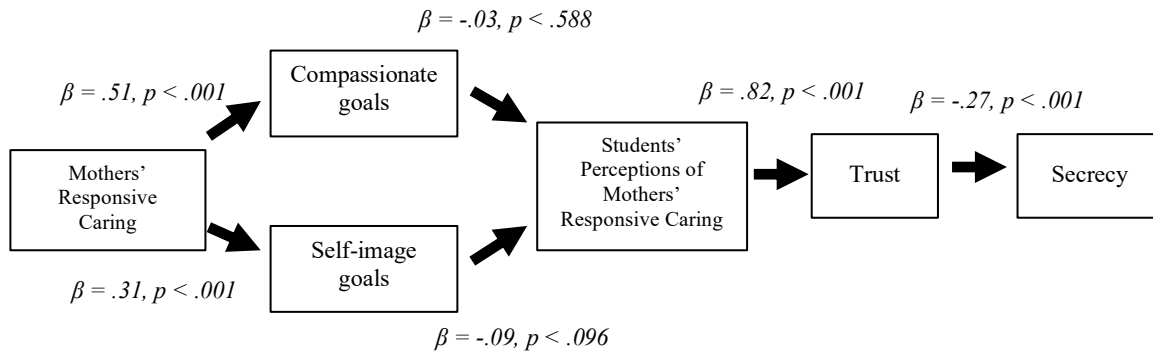
**Figure 4**

*Pathway for Alternative Model 2 – Reversing the Order of Students' Perceptions of Mothers' Responsive Caring and Students' Trust*



*β = .55, p < .001*

Compassionate goals

*β = .54, p < .001*     *β = .59, p < .001*     *β = -.35, p < .001*

Mothers' Responsive Caring

Trust

Students' Perceptions of Mothers' Responsive Caring

Secrecy

Self-image goals

*β = -.27, p < .001*

**Figure 5**

*Pathway for Alternative Model 3 – Reversing the Order of Students' Trust and Students' Secrecy*