**The Relationship Between Adolescent Perceived Parenting Dimensions and Internalizing Tendencies**

A thesis submitted by

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in partial fulfillment of the requirements for the degree of

Master of Arts

in

Child Study and Human Development

Tufts University

August 2025

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**Abstract**

Adolescence is a critical period for the development of personality traits such as internalizing tendencies. Parenting practices are among the environmental factors that can influence adolescents' personality traits. This study investigated the associations between adolescent-perceived parenting dimensions—responsiveness, autonomy support, and psychological control—and internalizing tendencies (depressivity, anxiousness, and anhedonia). The present study used cross-sectional data from 217 Dutch adolescents. Measures were self-reported by the participants through the Leuven Adolescent Perceived Parenting Scale (LAPPS) and the Personality Inventory for DSM-5 Short Form (PID-5-SF). Results indicated a significant relationship between parenting dimensions and internalizing tendencies. The correlations revealed a negative association of responsiveness and autonomy support with internalizing tendencies, while psychological control was positively associated. The regression analyses suggested that, overall, maternal parenting dimensions explained more variance in internalizing tendencies than paternal dimensions, particularly for depressivity and anhedonia. These findings align with theoretical frameworks such as Attachment Theory and Self-Determination Theory, highlighting the protective role of autonomy-supportive and emotionally responsive parenting.

*Keywords:* adolescents, parenting, internalizing tendencies

**Acknowledgments**

I would like to begin by thanking my thesis committee. To my advisor, Dr. Theo Klimstra — thank you for your thoughtful and detailed comments, and even more so for your affirming guidance throughout this past year. To Dr. Eileen Crehan — thank you for your support and feedback, which helped me improve my work. To Dr. Wim Beyers — thank you for the insights that enriched both my research and analysis.

In addition, I would like to express my heartfelt gratitude to my undergraduate advisor, Dr. Lucas Guimarães, whose guidance and mentorship made research and an academic path possible.

I am also deeply thankful to my family for their unwavering support. To my parents — thank you for supporting me unconditionally from beginning to end. To my siblings — being your sister and watching you grow is one of my favorite parts of life. To my partner — thank you for embarking on this journey with me and holding my hand every single day.

Finally, I dedicate this work to the best caregivers I could have ever wished for: my grandparents, Maria and Aderaldo, and my aunt, Tânia. Grandma, thank you for being an endless source of love and kindness, and for being the most wonderful person to have ever existed. Grandpa, thank you for always being present in the little things — and for every green apple you bought just because you heard me say they were my favorite. Auntie, thank you for being by my side even in the hardest moments, for all the books, and for all the bedtime stories you made up just for me.

It took a village.

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# The Relationship Between Adolescent Perceived Parenting Dimensions and Internalizing Tendencies

The bond between parents and children starts from the very first moments of contact. This connection establishes the foundation for the family environment, which is a major influence on the development of children's personality, attitudes, and well-being. Infants learn from their parents how to navigate the world around them, establish relationships, and form their own beliefs (Julian et al., 2017). In adolescence, the relationship between parents and children undergoes transformations. During this period, adolescents navigate physical, cognitive, physiological, and social changes. These alterations contribute to a change in their family relationships, which play a crucial role in supporting the adolescent's identity formation (Collins & Laursen, 2004). Nevertheless, the parent-adolescent relationship remains fundamental for adolescents to maintain healthy development and cultivate adaptive responses (Collins & Laursen, 2004). The absence of a safe and nurturing environment can impact later development, including the development of internalizing symptoms (Achterhof et al., 2021; Konopka et al., 2018; Lorence et al., 2019).

Given the importance of the parent-child relationship and parenting during adolescence, the present study will focus on one of the major challenges faced during this stage: the development of internalizing tendencies. The research will use data collected in the Netherlands, examining how different parenting dimensions are related to the mental health of adolescents in this context.

Over the last decades, the Netherlands has shown a decrease in the influence exerted by institutional powers (e.g., the church and political parties; Klimstra et al., 2012). This shift has broader impacts in social-cultural development, including child rearing, parenting dimensions and adolescents' development. For adolescents, a key issue is related to academic

and career choices. Although higher education is accessible to most individuals, adolescents must decide on an area of study during secondary school (Klimstra et al., 2012). This decision, made in early adolescence (between ages 14 and 15), is closely linked to their choice of a major in tertiary education (e.g., vocational school, college).

Another important aspect of family dynamics in the Netherlands is the emphasis on children's and adolescents' autonomy. This process of autonomy development involves both physical and emotional separation from parents, enabling adolescents to become more independent (Soenens et al., 2007). For instance, it is common for children to receive bicycles, allowing them to travel independently. This is consistent with the fact that in the Netherlands, there are more bicycles than people, with a ratio of 1.2 bicycles per inhabitant. (RAI Vereniging, 2016). The previously mentioned characteristics, combined with family environments, create an individualistic context (as opposed to a more collectivistic experience) in the developmental process of Dutch adolescents. This sociocultural context should be kept in mind as I address parenting dimensions and internalizing tendencies in more detail.

**Internalizing Symptoms**

Prolonged contact with caregivers that occurs in earlier experiences helps shape an individual's personality. The environment set during infancy has impacts later in development, such as in adolescence, which is considered a critical phase for the development of internalizing symptoms (Koenig et al., 2002). Internalizing symptoms (IS) are related to feelings and behaviors directed toward oneself and can manifest at any stage of human development, but adolescence is considered a particularly sensitive period for their development. According to Costello et al. (2011), there is an increase in IS during adolescence compared to childhood, especially in girls (Nolen-Hoeksema & Girgus, 1994).

This growth is related to multiple factors, which can function both as risk and protective factors: social relationships with peers, cognitive and hormonal characteristics, personality differences (e.g., self-esteem, emotional regulation), and relationships with parents.

Within the IS, symptoms related to depression, anhedonia, and anxiety are among the most frequently found in children and adolescents (NIH, 2022). While depression and anxiety are considered psychological symptoms, depressivity, anhedonia, and anxiousness are internalizing tendencies that essentially are personality tendencies. As noted in the DSM-5 (APA, 2013), psychological symptoms are temporary (i.e., time-limited), whereas personality traits remain relatively stable over longer periods of time.

According to the APA (2013), depressivity includes symptoms related to low mood, withdrawal, feelings of worthlessness, and loss of interest. Anhedonia, on the other hand, is related to the loss of pleasure and can be found in multiple psychopathological disorders, such as bipolar disorder, schizophrenia, and post-traumatic stress disorder. Anxiousness is associated with excessive worry, often accompanied by difficulty concentrating and psychomotor agitation (i.e., increased movement associated with tension or anxiety). All three internalizing tendencies can be accompanied by behaviors and physiological reactions such as fatigue, sleep disturbances, increased heart rate, and changes in appetite (APA, 2013). These personality-like internalizing tendencies can hinder adolescents' everyday functioning. In this context, the relationship with parents is a crucial factor in determining adolescents' physical and emotional well-being and can function as both protective and risk factors for the development of internalizing symptoms (Achterhof et al., 2021; Julian et al., 2017; Wong, 2006)

**Theoretical Background**

The way parents and children interact is studied by various scientific disciplines, which bring different perspectives. Among the most prominent examples of these are theories developed by Bowlby (1973) and Erikson (1950/1993). Attachment Theory (Bowlby, 1973) demonstrates the importance of a secure and well-established caregiver-child attachment, while the Stages of Development theory (Erikson, 1950/1993) highlights the benefits of parental involvement as children and adolescents navigate social challenges. Both theories explore the significance of positive caregiver-child relationships for psychological and emotional well-being throughout development.

The importance of the parent-child relationship is extensively explored in Erik Erikson's Stages of Development theory (1950/1993). In his theory, Erikson proposes eight psychosocial development stages based on the resolution or non-resolution of specific conflicts, each defined by two opposing psychological tendencies. While the first four stages occur during childhood and contribute to an individual's development, this study will focus primarily on adolescence, which occurs in the fifth stage.

This stage is defined by the conflict of identity vs. identity confusion. During this stage, adolescents reflect on their past experiences to develop a sense of self. They begin to address key questions that guide the formation of their personality, including issues of values, beliefs, religiosity, and sexuality (Erikson, 1950/1993). Adolescents seek to solidify their identity, often influenced by their upbringing and prior experiences.

Erikson (1950/1993) suggests that one stage can contribute to the development of subsequent stages, emphasizing the importance of an appropriate environment from the beginning of life to inform adolescent development. For example, the second stage—autonomy vs. shame/doubt—highlights the importance of creating a safe environment that fosters independence, which can significantly affect an adolescent's confidence and ability to

explore their identity. Additionally, the first environment the child is exposed to can impact the development of adaptive skills for navigating their lives, including internalizing symptoms (Erikson, 1993; Wiley & Berman, 2012). Thus, what occurs in adolescence is not only a continuation of earlier developmental stages, but the foundation laid during those stages remains relevant throughout the adolescent years.

Erikson's stages of development underscore the importance of a positive environment and the establishment of a well-constructed relationship with parents. Such conditions enable children to explore their surroundings and develop their personality. This foundation supports Bowlby's (1973) Attachment Theory, which highlights the role of caregivers in human development and identifies four types of attachment. Secure attachment is considered ideal: children feel safe to explore in the presence of the caregiver and show discomfort in their absence. This type of attachment results from a relationship where the caregiver provides care with responsiveness based on the child's needs. The second type is known as avoidant attachment, where the caregiver's emotional unavailability results in a child who avoids or ignores the presence of the caregiver (Ainsworth & Bell, 1981). Anxious-ambivalent attachment generally results from caregivers demonstrating inconsistent patterns of care. The last type identified is called disorganized attachment, where children do not exhibit a clear self-regulation strategy and show a combination of anxiety and avoidance. Disorganized attachment patterns are attributed to caregivers who are neglectful or exhibit abusive behaviors.

Furthermore, according to Attachment Theory, children exhibiting patterns of insecure attachment (e.g., psychological unavailability, absence or inadequacy in caregiving, early loss) may develop a range of psychopathological symptoms. Conversely, the maintenance of, or move towards a more secure attachment with caregivers can help foster

the necessary environment and interactions for children and adolescents to develop adaptive practices for themselves and with their environment, functioning as a protective factor against the development of psychopathology (Bowlby, 1973; Madigan et al., 2013).

Secure attachment is a strong predictor of well-functioning relationships between parents and adolescents. Adolescents whose basic needs have been consistently met throughout their lives are better supported in the development of their autonomy, which plays a crucial role in promoting their independence (Beyers et al., 2025). Similarly, adolescents with insecure attachment tend to perceive their caregivers as exerting higher levels of psychological control, what is associated with negative mental health outcomes (Leondari & Kiosseoglou, 2002).

The way caregivers interact with children regarding affection, support, and setting limits expresses their parenting style, which is affected by, reflected in, and affects attachment patterns (Julian et al., 2017; Lorence et al., 2019). The initial parenting styles were characterized by Baumrind (1971; 1978), who identified three main parenting patterns. Later, Maccoby and Martin (1983) also worked on refining these styles and added a fourth style. Parenting styles are based on the concepts of responsiveness and control. Responsiveness is related to how caregivers engage with their children on emotional, cognitive, and behavioral levels, while control is associated with how caregivers exercise authority and set demands.

The first parenting style is called authoritative and can be summarized as high control and high responsiveness. In this style, caregivers are characterized by promoting a loving yet controlling environment, predominantly dominated by adults but also considering the child's perspective. Authoritative caregivers are recognized for creating a secure environment where children can explore while also setting limits. Typical authoritative caregivers' behaviors

include providing explanations for demands, expectations regarding academic success, and engaging in open dialogue with children (Baumrind, 1971, 1978; Maccoby & Martin, 1983).

The second style is called authoritarian and involves high control and low responsiveness. This style is defined by high demand level (related to orders and expectations) and little affection. These caregivers tend to exert control through rules imposition defined from their own perspectives. Some of the attitudes and ideals of caregivers who adopt the authoritarian style are disregarding the child's opinion, expecting unquestioning obedience, and applying punishments for behaviors deemed "inappropriate" (Baumrind, 1971, 1978; Maccoby & Martin, 1983).

The third style, known as permissive (also called indulgent), involves caregivers with low control and varying levels of responsiveness (some are low, and others are high), centered on the child. Permissive caregivers believe children can learn and develop on their own, without the need of a more structured environment or adult assistance. These caregivers are excessively unconcerned and accepting towards children's wishes and impulses, with a confused establishment or too flexible set of rules. Additionally, they may vary in terms of affection and involvement: some exhibit more protective characteristics, while others lack in meeting children's emotional needs (Baumrind, 1971, 1978; Maccoby & Martin, 1983).

The fourth parenting style, known as neglectful, is characterized by low control and low responsiveness. The main distinction between the permissive and neglectful styles is that neglectful parents lack emotional engagement with their children, in addition to providing little or no rule enforcement and absence of supervision. Neglectful parents are mostly focused on their own needs instead of their children's needs (Baumrind, 1971, 1978; Maccoby & Martin, 1983). These parenting styles represent an overview of how different patterns of responsiveness and control develop through parent-child relationships. While the

operationalization of these styles is important, it is equally essential to examine the concepts of control and responsiveness separately.

This differentiation enabled the exploration of specific dynamics and a deeper understanding of each construct. This point is illustrated by Barber (1996), who emphasizes that it is crucial to distinguish between psychological control and behavioral control. Behavioral control is associated with how caregivers exercise authority and set demands, and is related to behavior management (Baumrind, 1971, 1978). Psychological control relates to negative behaviors aimed at manipulating the behaviors and feelings of children and adolescents (Barber, 1996). Parents use tactics such as guilt induction, withdrawal of affection, and other forms of emotional manipulation to persuade their children. While behavioral control (e.g., used to manage behaviors) can have positive consequences, the use of psychological control tends to have negative outcomes (Barber, 1996).

Later, the dimension of autonomy support was also considered in the analysis of parent-child relationships. Autonomy support encompasses parental support for age-appropriate development, independence promotion and how parents encourage children to develop their own potential (Soenens et al., 2007). The concept is based on Self-Determination Theory (Ryan & Deci, 1980; 2000; 2011), which posits that human development relies on three basic psychological needs. The first need is competence: experiencing a sense of efficacy and competence in achieving a goal or mastering an activity. The second is known as autonomy: this need is satisfied when people can attribute the origin of their desires to themselves and are able to make choices based on their own abilities, and with a sense of volition. The last psychological need is relatedness: this encompasses the sense of belonging to a social group and the feeling of mutual care among its members (Adams et al., 2017). According to Ryan et al. (1995), adolescents required by their parents

to renounce their autonomy to be loved are at a higher risk of developing psychopathological symptoms. Conversely, adolescents who perceive that their basic psychological needs are being met by their parents exhibit greater emotional regulation skills, which serve as a protective factor against internalizing symptoms (Ryan et al., 1995; Ryan & Deci, 2000; 2011).

In a recent study conducted by Achterhof et al. (2021) in Belgium, the significance of responsiveness, psychological control, and autonomy support for adolescent development was emphasized. Adolescents exposed to psychological control show impairments in social development. In contrast, parental autonomy support plays a critical role in fostering essential skills for effective social relationships and academic achievement. Furthermore, responsiveness was found to be a key factor in promoting healthy psychosocial development.

**Parenting and Internalizing Symptoms**

There are multiple factors that can contribute to the development of internalizing symptoms. The coaction between genetic aspects, individual differences, and environmental factors, such as family relationships, can buffer or increase biological risk (Achterhof et al., 2021; Julian et al., 2017). Parenting styles with low responsiveness, strong rule imposition, lack of boundaries, and absence of dialogue are strongly related to negative outcomes, including internalizing symptoms (Baumrind, 1971; Koenig et al., 2002). This is corroborated by research conducted by Konopka et al. (2018), which points out that parenting dimensions involving high levels of control and low responsiveness, emotionally distant behaviors, and excessive criticism are related to the development of depression. Overall, adolescents from families with warm relationships and clear rules tend to be at lower risk for developing psychopathological symptoms (Lamborn et al., 1991).

Psychological control is strongly associated with adverse outcomes. Researchers found a high correlation between elevated levels of parents' behaviors such as love withdrawal, psychological manipulation, and perceived parental pressure with internalizing symptoms, such as anxiety during adolescence (Barber, 1996; Wolfrradt et al, 2003). These findings are corroborated by Pettit et al. (2001), who also pointed out a positive correlation between psychological control and depressivity and anxiousness.

Parents who maintain a positive environment, consider children's opinions while setting boundaries, and are emotionally available can function as protective factors against biological and macroenvironmental vulnerabilities (e.g., racism, lack of access to healthcare) for the development of such as depression, anhedonia, and anxiety (Julian et al., 2017; Spera, 2005; Wolfradt et al., 2003). In line with this, Adams et al. (2017) found a positive

correlation between the promotion of autonomy support by parents and adolescents' psychosocial well-being.

There are various ways to analyze caregiving practices carried out by multiple caregivers. One approach is to consider the family structure composed of a father and a mother by examining the differences between the parenting dimensions of each one and their impact on adolescent outcomes. However, there are only a few studies examining this difference. The systematic review and meta-analysis conducted by Manuele et al. (2023) found that autonomy support by both parents tends to be associated with lower levels of depressive symptoms. Maternal autonomy support is also linked to lower levels of anxiety symptoms, whereas paternal autonomy support is not. Psychological control is associated with higher levels of internalizing symptoms, with no differences observed when examining mothers and fathers separately. Meanwhile, both paternal and maternal warmth are related to lower levels of internalizing symptoms. Therefore, both maternal and paternal parenting dimensions have shown similar impacts in adolescence internalizing symptoms.

**The Present Study**

The present study will assess the association between perceived parenting and personality-like internalizing tendencies among adolescents in the Netherlands. The current research aims to deepen the scientific understanding of these relationships. Regarding parenting, I focus on the dimensions of responsiveness, psychological control, and autonomy support. Behavioral control was not assessed, as previous research found no significant correlation with mental health (Khaleque et al., 2008). The internalizing tendencies I will focus on are depressivity, anxiousness, and anhedonia. Depressivity is a tendency related to low mood and sadness and anxiousness is an inclination to experience excessive worry. Lastly, anhedonia, which is related to diminished capacity to experience joy, will also be

investigated to add further nuance to the research on parenting and internalizing tendencies. The study seeks to comprehend how adolescents perceive their mothers' and fathers' parenting separately, and the implications for their psycho-emotional development. The research questions are: (a) how is perceived responsiveness associated with internalizing tendencies? (b) how is perceived psychological control associated with internalizing tendencies? (c) how is perceived autonomy support related to internalizing tendencies? (d) do perceived parenting dimensions predict internalizing tendencies differently for mothers and fathers? The hypotheses to be investigated are: (a) higher levels of perceived responsiveness are associated with lower levels of internalizing tendencies of depressivity, anhedonia, and anxiousness in adolescents; (b) higher perceived levels of psychological control are related to higher levels of depressivity, anhedonia, and anxiousness; (c) higher perceived levels of autonomy support are related to lower levels of depressivity, anhedonia, and anxiousness; (d) paternal and maternal parenting dimensions have similar associations with adolescents' mental health.

## Methods

### Participants

Data from the longitudinal sample of Project-Me (van Doeselaar et al., 2020) was used in the study. The total study consisted of four annual measurement occasions, starting in late 2015-early 2016. A total of 1,941 adolescents participated in the first measurement occasion. Of these adolescents, 349 were also included in the longitudinal part of the study, with three additional waves of data collection. Parenting was only measured from Wave 2 onwards. In this study, we focused on the 223 adolescents who provided data at Wave 2 and, therefore, used a cross-sectional design to test our research questions. Within the total sample, some participants were missing data for one of the caregivers. The final sample sizes

for the analyses are $n = 214$ for mother's parenting dimensions and $n = 213$ for father's parenting dimensions. Among the participants, 55.2% identified as female, 44.4% identified as male, and one participant did not disclose their gender. The average age is 14.7 years, with a minimum of 13 years and a maximum of 16.7 years, and a standard deviation of 0.68. Fourteen participants did not report their age. Regarding ethnicity, it is important to highlight that in the present study, this variable pertains to how participants identify themselves in terms of heritage culture and is often referred to, by the participants themselves, as what may seem like nationality. Among the participants, 92.4% identified as Dutch, 5.8% identified as part of another ethnicity (i.e., Surinamese/Antillean, Moroccan, Turkish, and others), and four participants did not respond to this item.

**Procedure**

The project staff contacted secondary schools in the Netherlands, and seven schools decided to participate. Parents were informed about the research two weeks prior to Wave 1. To participate in Wave 1, parents had to provide passive consent (i.e., consent was presumed and parents needed to specifically deny adolescents' participation) and adolescents had to provide active consent (i.e., sign a form to participate in the study). Of the 2,130 adolescents across the seven schools, 91% agreed to participate. The data were collected during a class period (45-50 minutes long) and data collection was guided by trained graduate students. Participants were asked to complete the questionnaires using electronic devices (e.g., laptops, tablets). They were allowed to stop with the questionnaire after the allotted hour and to resume participation later on using a provided participation link. They received no incentive for participation. Participants were contacted again for Wave 2 approximately one year after Wave 1. If adolescents agreed to participate, parents were asked to provide active consent when their children were younger than 16 years old, and passive consent when their children

were 16 years old or over. Participants completed the questionnaire outside of class hours and received €5 for their participation and entered a raffle to win €50. Project-Me received ethical approval in December 2015 (protocol number: EC-2015.49) from the local ethical review board at Tilburg University, The Netherlands.

## Measures

### *Leuven Adolescent Perceived Parenting Scale (LAPPS)*

The Leuven Adolescent Perceived Parenting Scale (Delhaye et al., 2012) assesses how adolescents express their perceptions of their parents' parenting practices. The scale was developed to be used with Dutch-speaking adolescents and encompass four concepts, of which three were included in this study: responsiveness with seven items related to the level of emotional involvement (e.g., "…happily does things with me), psychological control with eight items related to control exerted through psychological manipulation (e.g., "… avoids looking at me when I've disappointed her/him"), and autonomy support with five items related to support for age-appropriate development (e.g., "… lets me organize the things I do in my own way") (Barber, 1996; Maccoby & Martin, 1983; Soenens et al., 2006; Soenens et al., 2007). Adolescents rated each item on a five-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). The internal consistency of the measures related to parental behaviors was assessed using coefficient alpha, presented in Table 1. The values ranged from .78 for Mother's Autonomy Support to .93 for Mother's Responsiveness.

### *Personality Inventory for DSM-5 Short Form (PID-5-SF)*

The Personality Inventory for DSM-5 Short Form (PID-5-SF) is a 100-item abbreviated version of the original PID-5 that comprises of five higher-order domains (Antagonism, Detachment, Disinhibition, Negative Affectivity, and Psychoticism) and 25 lower-order trait facets (Krueger et al., 2012). The translated items were taken from the

Dutch version of the original PID-5 (De Clercq et al., 2014). Adolescents rated to what extent each item described themselves on a 4-point Likert scale ranging from 0 (*very false or often false*) to 3 (*very true or often true*). One item was dropped: "The world would be better off if I were dead" on the Depressivity facet. This item was not included in the questionnaire based on directions from the Institutional Review Board (IRB). I considered three facets in the present study: anxiousness with four items (e.g., "I'm always worrying about something"), depressivity with three items (e.g., "I'm useless as a person"), and anhedonia with four items (e.g., "Nothing seems to interest me very much"). Internal consistency was calculated using coefficient alpha, as shown in Table 1. The values ranged from .76 to .84.

***Plan of Analyses***

The scale scores obtained from the PID-5, and LAPPS' subscales are both considered continuous variables. Hence, the method used will be correlation analysis. The observed data will be analyzed using the computer program IBM SPSS Statistics 29. The first analyses will examine whether the data meet the following assumptions: linearity (scatterplots), normality (histograms, skewness, kurtosis), few extreme outliers (boxplots, *z*-scores), and independence (an observation is not influenced or related to other observations). For skewness and kurtosis, the cutoff point used will be less than three times the standard error, because $n < 300$. For *z*-scores, the cutoff will be values above |3|. If the assumptions are not met, the three first research questions will be addressed using Spearman correlation coefficients.

Subsequently, the analyses will be conducted in pairs, with a total of six correlations, examining the association between a variable related to one parent's parenting dimension (i.e., responsiveness, autonomy support, and psychological control) and an internalizing tendency measured in adolescents (i.e., anhedonia, depressivity, and anxiousness). Research Question A (is perceived responsiveness associated with internalizing tendencies?) will be

answered by analyzing the correlations between the responsiveness scores and each of the internalizing tendencies. Research Question B (is perceived psychological control associated with internalizing tendencies?) will be answered by analyzing the correlations between the psychological control scores and each of the internalizing tendencies. Research question C (is perceived autonomy support related to internalizing tendencies?) will be answered by analyzing the correlations between the autonomy support scores and each of the internalizing tendencies. Research question D (do perceived parenting dimensions predict internalizing tendencies differently for mothers and fathers?) will be answered with regression analyses. First, maternal variables will be entered, followed by paternal variables in the second step to assess whether paternal variables provide incremental predictive power beyond maternal variables. The analysis will then be reversed, with paternal variables entered first and maternal variables added subsequently, to determine whether maternal parenting dimensions contribute additional explanatory power beyond paternal influences. The findings will be considered statistically significant with a $p$-value < .05.

## Results

### Preliminary Analyses

Based on the descriptive analyses, missing values were observed across all variables. Participants missing data (6 participants) for all variables were excluded from further analysis, resulting in a final sample size of 217 participants. In the normality assessment, the variables Mother's Responsiveness, Mother's Autonomy Support, and Father's Autonomy Support initially displayed kurtosis values outside acceptable parameters. Outliers with extreme $z$-scores values (higher than |3|) were removed from the distribution. The updated values, after removing extreme outliers, for skewness and kurtosis are presented in Table 2.

All other variables exhibited a low presence of outliers, based on boxplot and $z$-score

analyses. The number of outliers ranged from zero (Anxiousness Subscale) to five (Father's Responsiveness). Furthermore, according to the scatterplots (Appendix B), all pairs of variables (parenting dimensions vs. internalizing tendencies) displayed a linear relationship. Due to the non-normality of the distribution, the variables were suited for a correlation analysis using Spearman's coefficient.

## Correlation Analyses

### *Mother's Responsiveness and Internalizing Tendencies*

The correlations indicated a significant negative relationship of mother's responsiveness with adolescent anhedonia and depressivity ($r = -.404$, $r = -.319$, respectively, with $p < .001$), resulting in medium to large effect sizes. Meanwhile, the correlation for mother's responsiveness with adolescent anxiousness was negative and statistically significant ($r = -.202$, $p = .003$), with a small to medium effect size.

### *Mother's Autonomy Support and Internalizing Tendencies*

The correlations indicated a significant negative relationship of mother's autonomy support with adolescent anhedonia ($r = -.221$, $p = .001$), resulting in a small to medium effect size. The correlation of mother's autonomy support with adolescent depressivity was also significant and negative ($r = -.176$, $p = .011$), with a small to medium effect size. Finally, the relationship of mother's autonomy support with adolescent anxiousness was negative but not statistically significant ($r = -.078$, $p = .265$).

### *Mother's Psychological Control and Internalizing Tendencies*

The correlations indicated a significant positive relationship of mother's psychological control with adolescent anhedonia and depressivity ($r = .415$, and $r = .351$, respectively, with $p < .001$), resulting in medium to large effect sizes. Meanwhile, the

correlation of mother's psychological control with adolescent anxiousness was positive and statistically significant ($r = .214$, $p = .002$), with a small to medium effect size.

### *Father's Responsiveness and Internalizing Tendencies*

The correlations indicated a significant negative relationship of father's responsiveness with adolescent anhedonia ($r = -.408$, $p < .001$), resulting in a medium to large effect size. The correlation of father's responsiveness with adolescent depressivity was negative and significant ($r = -.303$, $p < .001$), with a medium effect size. Meanwhile, the correlation of father's responsiveness with adolescent anxiousness was negative and statistically significant ($r = -.161$, $p = .019$), with a small to medium effect size.

### *Father's Autonomy Support and Internalizing Tendencies*

The correlations indicated a significant negative relationship of father's autonomy support with adolescent anhedonia and depressivity ($r = -.218$, and $r = -.240$, with $p = .002$, and $p < .001$, respectively), resulting in small to medium effect sizes. Meanwhile, the correlation of father's autonomy support with adolescent anxiousness was not statistically significant ($r = -.103$, $p = .103$).

### *Father's Psychological Control and Internalizing Tendencies*

The correlations indicated a significant positive relationship of father's psychological control with adolescent anhedonia and depressivity ($r = .338$, and $r = .296$, respectively, with $p < .001$), resulting in medium effect sizes. Meanwhile, the correlation of father's psychological control with adolescent anxiousness was positive and statistically significant ($r = .247$, $p < .001$), with a small to medium effect size.

## Multiple Regression Analyses

### *Depressivity and Parenting Dimensions*

A multiple regression analysis was conducted to predict depressivity using mother's parenting dimensions as predictors, as shown in Table 3. The model was significant, $F(3,206) = 15.29$, $p < .001$, with an $R^2$ of .18, indicating that these maternal variables explained approximately 18% of the variance in depressivity, resulting in a medium to large effect size.

An analysis of the individual regression coefficients revealed that, in the first model, maternal psychological control was a positive and significant predictor. Mother's responsiveness was a significant negative predictor ($t$ (206) = -2.37). However, mother's autonomy support was not a significant predictor ($t$ (206) = .16). In the second model, father's parenting dimensions were added. This model did not significantly improve the prediction, $F$ (3,203) = 0.73, $p$ = .54, with an $R^2$ change of .009. This suggests that the addition of paternal variables did not significantly enhance the model's explanatory power.

Considering the individual regression coefficients, maternal psychological control remained a positive significant predictor ($t$ (203) = 2.657). Maternal responsiveness was no longer a significant predictor ($t$ (203) = -1.963). Maternal autonomy support was not a significant predictor. None of the paternal variables were significant predictors.

A second multiple regression analysis was conducted to predict depressivity, entering fathers' parenting dimensions first to examine whether the order of entry of the predictors caused any effects (Table 4). The model was significant, $F$ (3, 206) = 7,63, $p < .001$, with an $R^2$ of .10, indicating that these paternal variables explained approximately 10% of the variance in depressivity, resulting in a medium effect size.

An analysis of the individual regression coefficients revealed that, in the first model, only paternal psychological control was a positive significant predictor ($t$ (206) = 2.546). In the second model, the mother's parenting dimensions were added. This model significantly

improved the prediction, $F$ (3, 203) = 7.60, $p < .001$, with an $R^2$ change of .09. This suggests that the addition of maternal variables significantly enhanced the model's explanatory power.

Considering the individual regression coefficients, none of the paternal variables were significant predictors. Regarding the maternal variables, psychological control was a significant positive predictor ($t$ (203) = 2.657). Maternal responsiveness and maternal autonomy support were not significant predictors.

***Anxiousness and Parenting Dimensions***

A multiple regression analysis was conducted to predict anxiousness using mother's parenting dimensions as predictors (Table 3). The model was significant, $F$ (3, 207) = 5.21, $p$ = .002, with an $R^2$ of .07, indicating that these maternal variables explained approximately 7% of the variance in anxiousness, resulting in a small to medium effect size.

An analysis of the individual regression coefficients revealed that, in the first model, only maternal psychological control was a positive significant predictor ($t$ (207) = 3.024). In the second model, father's parenting dimensions were added. This model did not significantly improved the prediction, $F$ (3, 204) = 1.50, $p$ = .214, with an $R^2$ change of .02. This suggests that the addition of paternal variables did not significantly enhance the model's explanatory power. Considering the individual regression coefficients, none of the variables were considered statistically significant, with $p$ values ranging from .067 to .815.

A second multiple regression analysis was conducted to predict anxiousness, entering fathers' parenting dimensions first to examine whether the order of entry of the predictors caused any effects (Table 4). The model was significant, $F$ (3, 207) = 4.50, $p$ = .003, with an $R^2$ of .07, indicating that these paternal variables explained approximately 7% of the variance in anxiousness, resulting in a small effect size.

An analysis of the individual regression coefficients revealed that, in the first model, only paternal psychological control was a positive significant predictor ($t$ (207) = 3.140). Paternal responsiveness presented $p$ = .847 and for paternal autonomy support was $p$ = .410. In the second model, the mother's parenting dimensions were added. This model did not significantly improved the prediction, $F$ (3, 204) = 1.80, $p$ = .154, with an $R^2$ change of .024. This suggests that the addition of maternal variables did not significantly enhance the model's explanatory power. Considering the individual regression coefficients, none of the variables were considered statistically significant, with $p$ values ranging from .067 to .815.

***Anhedonia and Parenting Dimensions***

A multiple regression analysis was conducted to predict anhedonia using mother's parenting dimensions as predictors (Table 3). The model was significant, $F$ (3, 208) = 21.525, $p < .001$, with an $R^2$ of .24, indicating that these maternal variables explained approximately 24% of the variance in anhedonia, resulting in a large effect size.

An analysis of the individual regression coefficients revealed that, in the first model, maternal psychological control was a positive and significant predictor ($t$ (208) = 4.843). Mother's responsiveness was a significant negative predictor ($t$ (208) = -2.705). However, mother's autonomy support was not a significant predictor ($t$ (208) = -.246). In the second model, father's parenting dimensions were added. This model significantly improved the prediction, $F$ (3, 205) = 3.45, $p$ = .017, with an $R^2$ change of .037. This suggests that the addition of paternal variables significantly enhanced the model's explanatory power.

Considering the individual regression coefficients, maternal psychological control remained a positive significant predictor ($t$ (205) = 2.657). Maternal responsiveness and maternal autonomy support were not significant predictors. Father's responsiveness was a

significant negative predictor *(t* (205) = -2.639). Father's psychological control and father's autonomy support were not statistically significant.

A second multiple regression analysis was conducted to predict anhedonia entering fathers' parenting dimensions first to examine whether the order entry of the predictors caused any effects (Table 4). The model was significant, $F$ (3, 208) = 14.25, $p < .001$, with an $R^2$ of .10, indicating that these paternal variables explained approximately 10% of the variance in anhedonia, resulting in a medium effect size.

An analysis of the individual regression coefficients revealed that, in the first model, paternal responsiveness was a significant negative predictor ($t$ (208) = -3.112). Paternal psychological control was a significant positive predictor ($t$ (208) = -2.603). However, father's autonomy support was not a significant predictor ($t$ 208) = .557). In the second model, mother's parenting dimensions were added. This model significantly improved the prediction, $F$ (3, 205) = 9.71, $p < .001$, with an $R^2$ change of .10. This suggests that the addition of maternal variables significantly enhanced the model's explanatory power.

Considering the individual regression coefficients, paternal responsiveness remained a negative significant predictor ($t$ (205) = -2.636). Paternal psychological control and paternal autonomy support were not statistically significant. Maternal psychological control was a significant positive predictor ($t$ (205) = 3.401). However, maternal responsiveness and maternal autonomy support were not statistically significant.

## Discussion

The present study examined how adolescents' perceptions of parenting dimensions relate to internalizing tendencies. My research also explored potential differences between maternal and paternal parenting variables. The findings demonstrate an association between adolescents' perceived parental dimensions (responsiveness, autonomy support, and

psychological control) and their internalizing tendencies (depressivity, anxiousness, and anhedonia), aligning with the existing literature (Achterhof et al., 2021; Julian et al., 2017). Both parental responsiveness and autonomy support are negatively related to internalizing tendencies, whereas psychological control is positively associated with these tendencies. Regression analyses indicate that maternal dimensions explain a greater proportion of the variance in internalizing tendencies compared to paternal variables.

**Associations Between Adolescent-perceived Parenting and Internalizing Tendencies**

The correlations between adolescents' perceived parenting dimensions and internalizing tendencies revealed statistically significant associations. Specifically, parental responsiveness and autonomy support were negatively associated with adolescents' internalizing tendencies, whereas psychological control demonstrated a positive association with these tendencies. These findings support Hypotheses A, B, and C, indicating that higher levels of perceived parental responsiveness and autonomy support are associated with lower levels of anhedonia, depressivity, and anxiousness. Conversely, higher levels of perceived parental psychological control are linked to higher levels of anhedonia, depressivity, and anxiousness. Notably, parental dimensions exhibited larger effect sizes for depressivity and anhedonia, whereas anxiousness demonstrated smaller effect sizes overall and was not significantly associated with autonomy support.

The finding that maternal and paternal responsiveness were significant negative predictors of depressivity and anhedonia, aligning with the findings of van der Voort et al. (2014) in North-West European populations, such as Belgians, with adoptive children. Adolescents with parents who exhibit higher responsiveness demonstrate greater emotional security in their attachment figures, which facilitates the development of more adaptive personality traits (Bowlby, 1973). In contrast, maternal and paternal psychological control

demonstrated strong positive associations with internalizing tendencies, consistent with previous research (Barber, 1996; Pettit et al., 2001). These findings reinforce the notion that psychological control undermines adolescent autonomy, potentially leading to emotional difficulties (Ryan & Deci, 2000, 2011).

The strongest associations in the present study were observed between parenting dimensions and anhedonia, indicating a robust relationship between adolescents' perceptions of their parents' parenting and their levels of anhedonia. These findings highlight the influence of parenting, particularly parental responsiveness, on adolescent personality characteristics such as loss of interest and reduced capacity to exeprience joy. This supports previous research suggesting that high-quality parent-child relationships characterized by responsiveness and secure attachment may serve as protective factors against the development of anhedonia in adolescence (Blanchard et al., 2011; Guo et al., 2021).

The smaller effect sizes related to anxiousness suggest that although adolescent anxiousness may be associated with parental dimensions, these factors may not be the most prominent contributors to its development. Similarly, the lack of a significant association with autonomy support suggests that, while autonomy support has been shown to be important for adolescents' well-being in Belgium, which is the country neighboring the Netherlands (where the current study took place) (Soenens et al., 2007), responsiveness may play a more central role in emotional regulation. This highlights the necessity of considering the cultural context when evaluating parental influences on adolescent psychological outcomes.

Overall, the observed negative associations of parental autonomy support and responsiveness with internalizing tendencies, alongside the positive association of psychological control, corroborate previous studies (Ryan et al., 1995; Barber, 1996;

Manuele et al., 2023). These findings support the Self-Determination Theory model (Ryan et al., 1995), emphasizing that fulfilling basic psychological needs and parental involvement in supporting challenges across developmental stages serve as protective factors for adolescent mental health. Conversely, adolescents perceiving high parental psychological control exhibit higher levels of internalizing tendencies. Similarly, research shows that higher levels of perceived parental autonomy support and responsiveness have been found to be associated with lower levels of internalizing tendencies in adolescents (van der Voort et al., 2014; Brenning et al., 2015). This perception may indicate the presence of insecure attachment to caregivers (Bowlby, 1973), contributing to socioemotional vulnerabilities (Madigan et al., 2013).

**Unique Contributions of Adolescent-perceived Maternal and Paternal Parenting**

Regression analyses revealed distinct patterns for the internalizing tendencies. Psychological control, especially as perceived by mothers, is the strongest predictor of internalizing tendencies. Maternal psychological control consistently predicted higher levels of depressivity, anxiousness, and anhedonia, aligning with the correlation findings. However, its significance for anxiousness diminished once paternal variables were included in the model. Paternal psychological control was a risk factor for anxiousness and anhedonia but lost significance when maternal variables were added.

Responsiveness demonstrated a protective role against internalizing tendencies, particularly in relation to anhedonia. While maternal responsiveness initially emerged as a significant negative predictor of both depressivity and anhedonia, its effects were reduced or became non-significant once paternal variables were introduced. In contrast, paternal

responsiveness remained a stable and significant protective factor for anhedonia across models. Neither maternal nor paternal autonomy support significantly predicted any internalizing tendencies.

Maternal variables consistently demonstrated a stronger explanatory power than paternal variables, challenging Hypothesis D, which posited similar associations for both parents. Across all internalizing tendencies, maternal psychological control played a more prominent role, particularly in relation to depressivity and anhedonia. However, its significance for anxiousness diminished once paternal variables were included in the model. In contrast, paternal variables, though relevant, contributed less to the overall variance in internalizing symptoms. The inclusion of paternal variables only substantially improved the model for anhedonia, while maternal variables significantly enhanced the explanation of both depressivity and anhedonia but not anxiousness.

These findings suggest the greater salience of maternal roles. However, findings of this study do not suggest that paternal parenting does not matter. What it does indicate is, aligning with previous research, that mothers tend to be more involved in emotional interactions and thus are more influential to internalizing tendencies, whereas fathers may be more engaged in fostering independence and academic performance (Manuele et al., 2023).

Overall, the present findings suggest that the absence of an appropriate environment where children feel safe and insufficient parental involvement throughout childhood and adolescence may hinder the development of adaptive skills, increasing vulnerability to internalizing tendencies. According to Erikson's theory (1950/1993), consistent support and responsiveness from caregivers are crucial during developmental stages such as "initiative vs. guilt" and "identity vs. confusion," where the development of a coherent sense of self and emotional competence are fundamental. Without such support, children may be more

vulnerable to internalizing personality traits later in life (Erikson, 1950/1993). Furthermore, establishing a strong parent-child bond with responsive and autonomy-supporting parents from early childhood supports secure attachment formation, enabling adolescents to develop positive personality traits that help them navigate life challenges (Bowlby, 1973).

Previous studies show that family-based intervention programs have a positive impact on adolescents' mental health and general well-being (Kuhn & Laird, 2014). The current study may contribute to the further development of such programs, by highlighting the importance of parental responsiveness and the reduction of psychological control as strategies to prevent internalizing tendencies in adolescents. Additionally, my findings highlight the need to encourage balanced autonomy-supportive parenting practices, ensuring that adolescents develop independence while maintaining a healthy parental bond. Finally, the results of the present study demonstrate the influence of both parents on adolescents' internalizing tendencies, even without considering the indirect effects that one parent's approach may have on the other's parenting. A potential way of reducing psychological control strategies, which were shown to be harmful, would be the creation of parental support groups, aimed at reducing psychological control strategies and fostering effective communication to promote positive mental health outcomes.

**Limitations**

Although this study provides insights into adolescents' perceptions of parental dimensions concerning the development of internalizing tendencies, some limitations must be acknowledged. The first limitation concerns the sample: the participants are predominantly of Dutch origin, which introduces specific sociocultural characteristics related to adolescents and their families. This factor limits the generalizability of the findings to other countries and cultures. Additionally, the sample consists exclusively of families

composed of one male and one female parent, without considering other family structures and their potential impact on family dynamics. The study does not consider more complex family structures, such as divorced or remarried parents and adoptive families. Nonetheless, research by Voort et al. (2014), conducted with adoptive families, reported similar patterns, suggesting that the present findings may extend to a broader range of contexts.

Another limitation is that data were collected solely through self-reported questionnaires, which may be influenced by social desirability bias and memory distortions. Moreover, adolescents provided information about their parents based on their subjective perspectives. Findings from previous studies highlight discrepancies between adolescents' and parents' reports, suggesting that these perspectives provide non-interchangeable information (Pasch et al., 2011). Another important point to consider is that adolescents who reported being depressed may also have a tendency to provide negative reports on other matters, such as parenting. This approach may introduce bias, as other viewpoints (e.g., parents reporting on their own behavior) were not collected.

Finally, due to the aforementioned factors and the cross-sectional nature of the data, it is not possible to establish causal relationships between variables or determine the direction of effects among parental dimensions. Specifically, it remains unclear in the present study whether adolescent internalizing tendencies are shaped by parenting dimensions, whether parenting dimensions are influenced by adolescents' internalizing tendencies, or whether other variables contribute to this relationship. However, a previous longitudinal study with Belgian adolescents found evidence of a bidirectional relationship between parenting and adolescents' personality (Van den Akker et al., 2010) and another longitudinal study with Belgian adolescents (Soenens et al., 2008) showed that links between psychological control and adolescents' depressive symptoms are reciprocal by nature. Therefore, the present study

would benefit from multiple measurement occasions to investigate the directionality between the specific parenting dimensions and internalizing tendencies I focused on.

**Future directions**

To enhance future research, several improvements can be implemented. First, studies should include diverse populations across different countries to increase sample variability concerning sociocultural contexts. Over the years, some researchers have demonstrated the importance of cultural differences in how parenting dimensions are perceived, and the effects related to each one. A relationship based on communication, support, and affection is beneficial in all cultures, although it is even more protective in cultures that value collective relations (García & Gracia, 2014). Chinese youth tend to perceive parental control more positively than North Americans, for example (Dwairy, 2004). This supports the idea that the presence of rules tends to be a strong protective factor against substance abuse in the North American population, whereas in a Spanish population a more permissive parenting style seemed more beneficial (Stone et al., 2012; García & Gracia, 2009; Konopka et al., 2018).

Additionally, the study design could be adjusted to incorporate various family structures by adopting neutral terms, such as "parents" or "caregivers," and expanding response options beyond "mothers" and "fathers." Another potential improvement involves conducting longitudinal studies with the same variables measured over time to track adolescents and their families over time, allowing for a more comprehensive analysis of these phenomena. Alternative methods for measuring parenting dimensions and internalizing tendencies could also be employed, including controlled observational settings and direct caregiver reports, to integrate multiple perspectives (Haywood & Lawlor, 2018). Finally, future studies should adopt a developmental-contextual approach by considering factors such

as socioeconomic status and educational level, ensuring that additional influences on the findings are accounted for.

**Conclusion**

This study reinforces the critical role of parenting practices in adolescent mental health. The findings indicate that responsiveness and autonomy support are associated with lower internalizing tendencies, whereas psychological control has negative effects. Additionally, the results highlight the importance of a well-established parent-child bond from early childhood as a protective factor for adolescent mental health. Furthermore, the study underscores the need to consider multiple perspectives (i.e., both parents) when examining adolescent personality outcomes. These findings emphasize the necessity of interventions that promote positive parenting practices, focusing on reducing psychological control while strengthening responsiveness and autonomy support to foster more adaptive personality traits in adolescents.

## Tables

**Table 1**

*Scales Coefficient Alpha*

| Variable | Number of Items | Coefficient Alpha |
|---|---|---|
| Mother's Responsiveness | 7 | .929 |
| Mother's Psychological Control | 8 | .812 |
| Mother's Autonomy Support | 5 | .613 |
| Father's Responsiveness | 7 | .925 |
| Father's Psychological Control | 8 | .875 |
| Father's Autonomy Support | 5 | .582 |
| Anhedonia Subscale | 4 | .755 |
| Anxiousness Subscale | 4 | .831 |
| Depressivity Subscale | 3 | .843 |

**Table 2**

*Descriptive Statistics*

| Variable | N | Mean | SD | Skewness | SE | Kurtosis | SE |
|---|---|---|---|---|---|---|---|
| Mother's Responsiveness | 211 | 4.263 | .596 | -.781 | .166 | .679 | .331 |
| Mother's Psychological Control | 214 | 1.931 | .616 | .833 | .166 | .498 | .331 |
| Mother's Autonomy Support | 210 | 3.663 | .424 | -.370 | .166 | -.619 | .331 |
| Father's Responsiveness | 213 | 3.860 | .848 | -1.076 | .167 | 1.581 | .332 |
| Father's Psychological Control | 213 | 1.882 | .697 | .939 | .167 | .669 | .332 |
| Father's Autonomy Support | 210 | 3.702 | .460 | -.233 | .167 | .335 | .332 |
| Anhedonia Scale Score | 217 | 1.572 | .527 | .924 | .165 | .476 | .329 |
| Anxiousness Scale Score | 216 | 2.138 | .721 | .398 | .166 | -.375 | .330 |
| Depressivity Scale Score | 215 | 1.482 | .623 | 1.450 | .166 | 1.668 | .330 |

Note. SD is used to represent Standard Deviation and SE is used to represent Standard Error.

**Table 3**

*Multiple Regression with Mother's Variables First*

| | | Depressivity | | | | Anxiousness | | | | Anhedonia | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *B* | SE *B* | β | *p* | *B* | SE *B* | *β* | *p* | *B* | SE *B* | β | *p* |
| Model 1 | Mother's Responsiveness | -.181 | .393 | -.205 | .019 | -.085 | .093 | -.083 | .359 | -.166 | .061 | -.222 | .007 |
| | Mother's Psychological Control | .288 | .076 | .283 | <.001 | .270 | .089 | .230 | .003 | .285 | .059 | .332 | < .001 |
| | Mother's Autonomy Support | -.015 | .073 | -.012 | .876 | .060 | .115 | .044 | .599 | -.019 | .076 | -.018 | .806 |
| Model 2 | Mother's Responsiveness | -.164 | .083 | -.185 | .051 | -.115 | .101 | -.112 | .256 | -.109 | .066 | -.146 | .099 |
| | Mother's Psychological Control | .241 | .091 | .237 | .009 | .146 | .110 | .125 | .187 | .244 | .072 | .284 | <.001 |
| | Mother's Autonomy Support | -.011 | .106 | -.009 | .917 | .078 | .127 | .057 | .536 | -.051 | .082 | -.050 | .539 |
| | Father's Responsiveness | -.063 | .073 | -.085 | .390 | .021 | .089 | .025 | .815 | -.154 | .058 | -.247 | .009 |
| | Father's Psychological Control | .041 | .087 | .046 | .636 | .195 | .106 | .188 | .067 | .004 | .069 | .005 | .956 |
| | Father's Autonomy Support | .017 | .096 | .015 | .858 | .076 | .117 | .057 | .516 | .082 | .077 | .084 | .286 |

Note. SE is used to represent Standard Error.

**Table 4**

*Multiple Regression with Father's Variables First*

| | | Depressivity | | | | Anxiousness | | | | Anhedonia | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *B* | SE *B* | β | *p* | *B* | SE *B* | *β* | *p* | *B* | SE *B* | β | *p* |
| | Father's Responsiveness | -.105 | .070 | -.142 | .138 | -.016 | .082 | -.019 | .847 | -.176 | .057 | -.283 | .002 |
| Model 1 | Father's Psychological Control | .186 | .073 | .207 | .012 | .269 | .086 | .259 | .002 | .153 | .059 | .202 | .010 |
| | Father's Autonomy Support | -.011 | .093 | -.010 | .906 | .090 | .109 | .068 | .410 | .042 | .075 | .043 | .578 |
| | | | | | | | | | | | | | |
| | Father's Responsiveness | -.063 | .073 | -.085 | .390 | .021 | .089 | .025 | .815 | -.154 | .058 | -.247 | .009 |
| | Father's Psychological Control | .041 | .087 | .046 | .636 | .195 | .106 | .188 | .067 | .004 | .069 | .005 | .956 |
| Model 2 | Father's Autonomy Support | .017 | .096 | .015 | .858 | .076 | .117 | .057 | .516 | .082 | .077 | .084 | .286 |
| | Mother's Responsiveness | -.164 | .083 | -.185 | .051 | -.115 | .101 | -.112 | .256 | -.109 | .066 | -.146 | .099 |
| | Mother's Psychological Control | .241 | .091 | .237 | .009 | .146 | .110 | .125 | .187 | .244 | .072 | .284 | <.001 |
| | Mother's Autonomy Support | -.011 | .106 | -.009 | .917 | .078 | .127 | .057 | .536 | -.051 | .082 | -.050 | .539 |

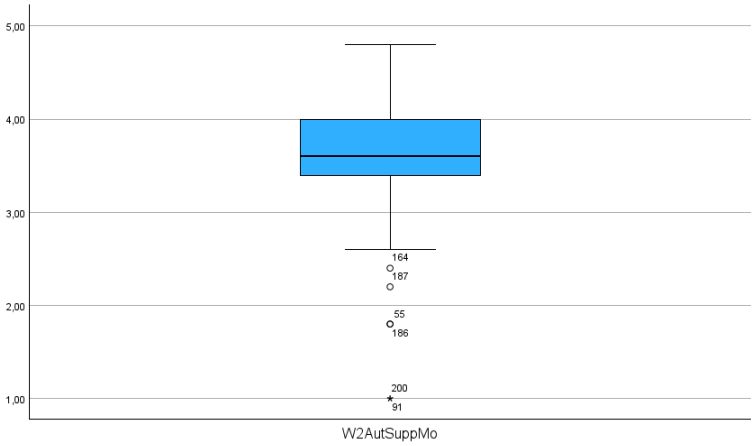
Note. SE is used to represent Standard Error.

# Appendix A

## Boxplots

### Figure 1A

*Mother Autonomy Support*




### Figure 2A

*Mother Responsiveness*

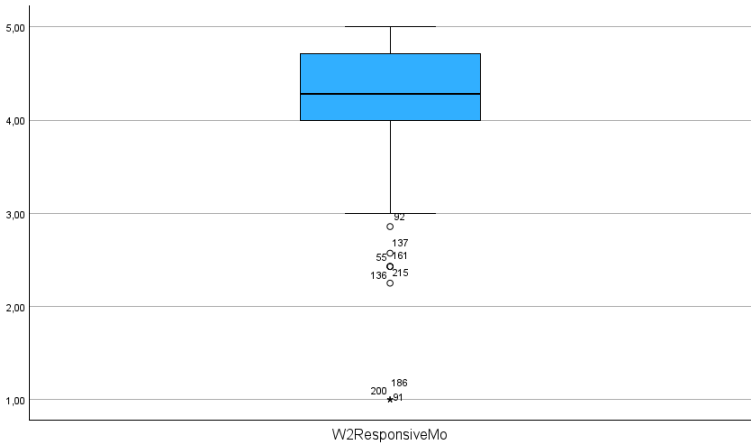


**Figure 3A**

*Mother Psychological Control*

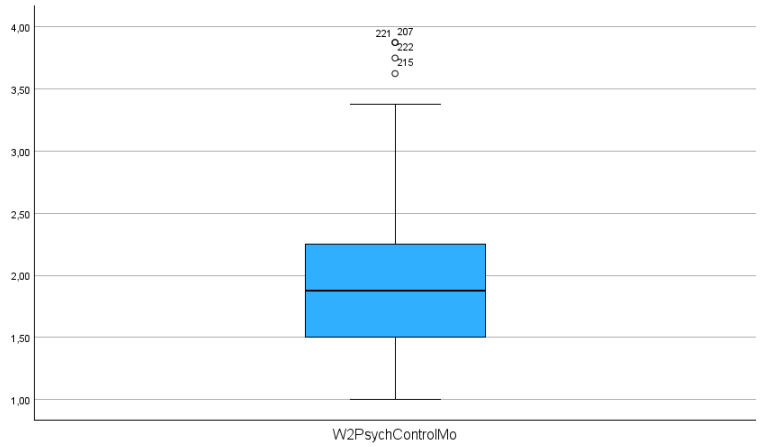



**Figure 4A**

*Father Responsiveness*

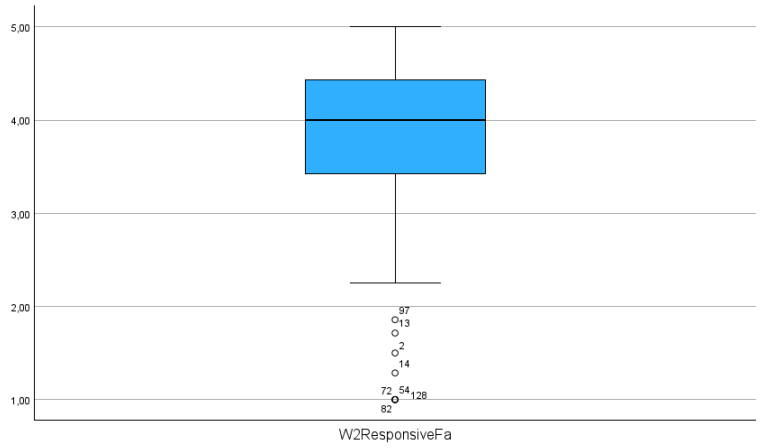


**Figure 5A**

*Father Psychological Control*

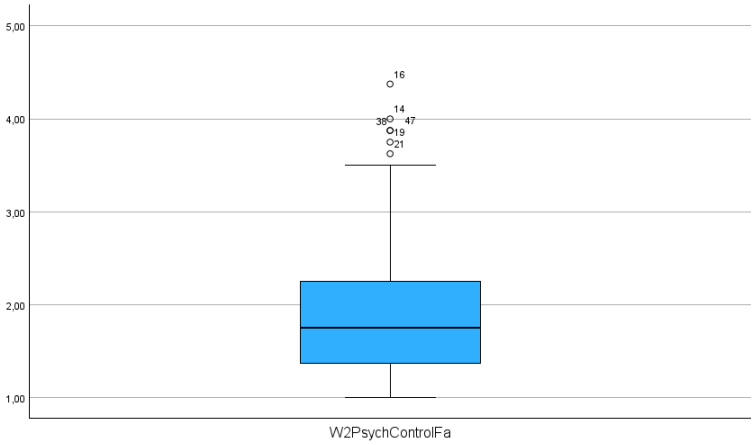



**Figure 6A**

*Father Autonomy Support*

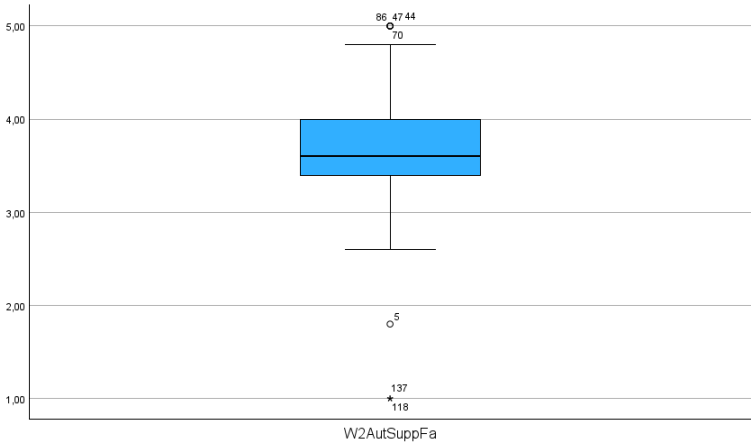


**Figure 7A**

*Anhedonia*

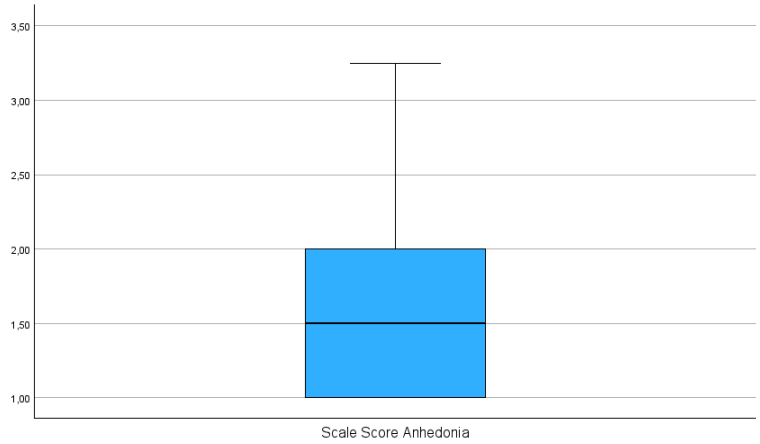



**Figure 8A**

*Anxiousness*

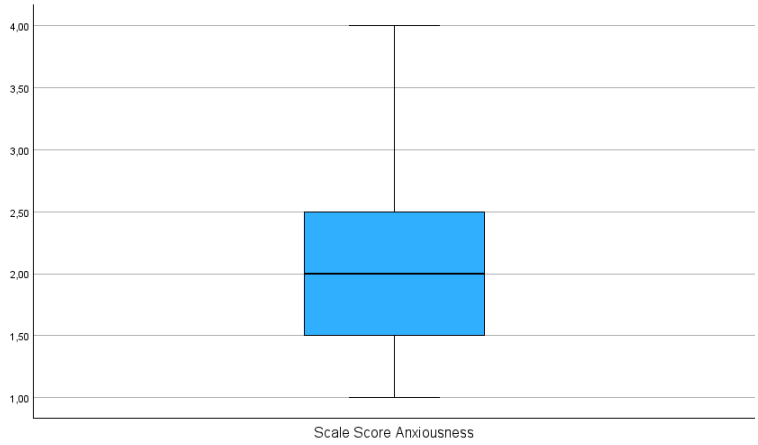
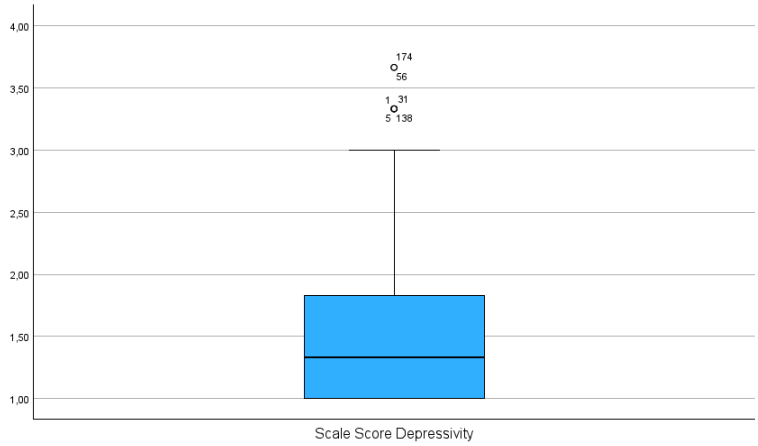


**Figure 9A**

*Depressivity*

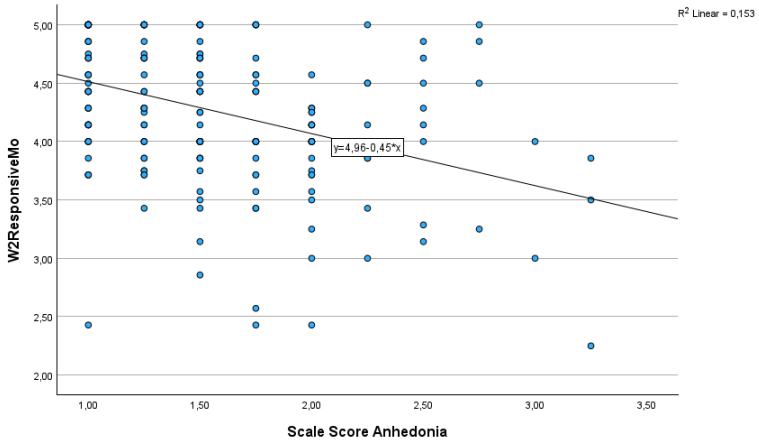


# Appendix B

## Scatterplots

### Figure 1B

*Mother Responsiveness and Anhedonia*




### Figure 2B

*Mother Responsiveness and Anxiousness*

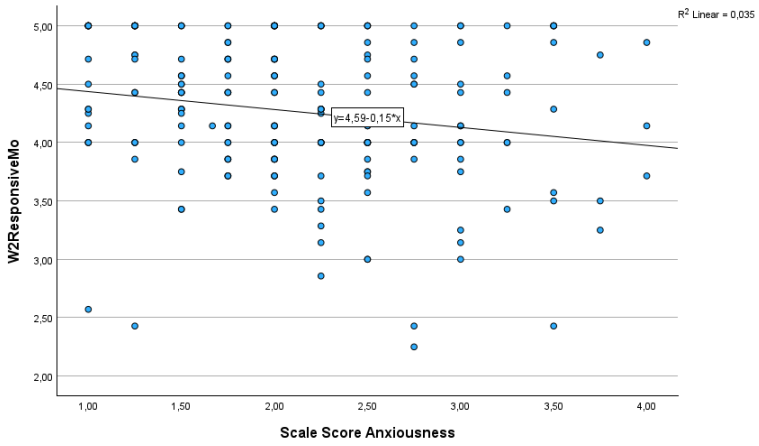


**Figure 3B**

*Mother Responsiveness and Depressivity*

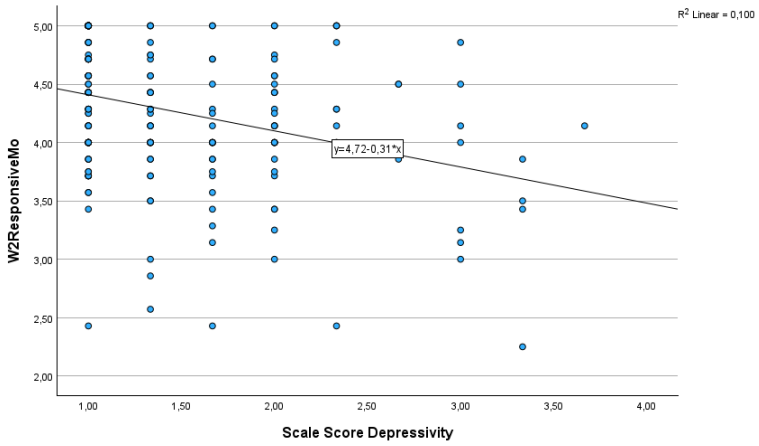



**Figure 4B**

*Mother Autonomy Support and Anhedonia*

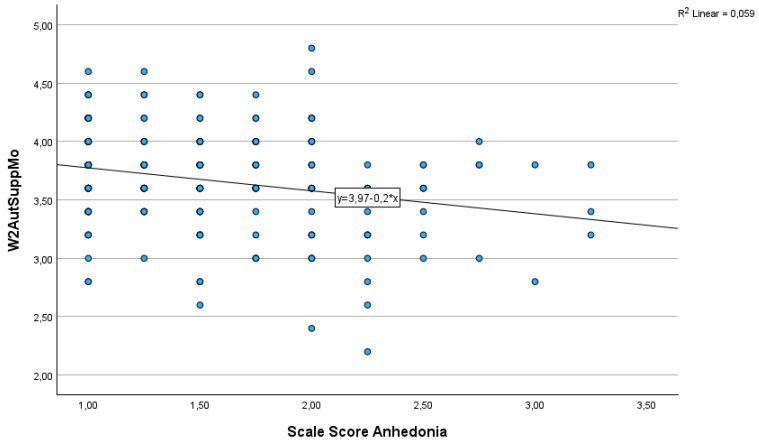



**Figure 5B**

*Mother Autonomy Support and Anxiousness*

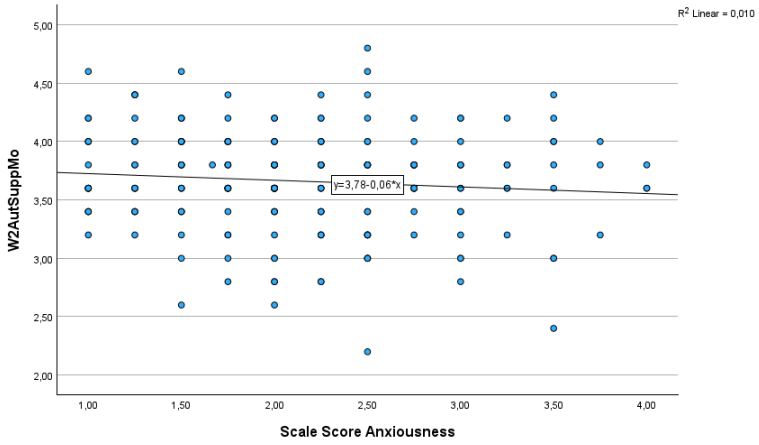



**Figure 6B**

*Mother Autonomy Support and Depressivity*

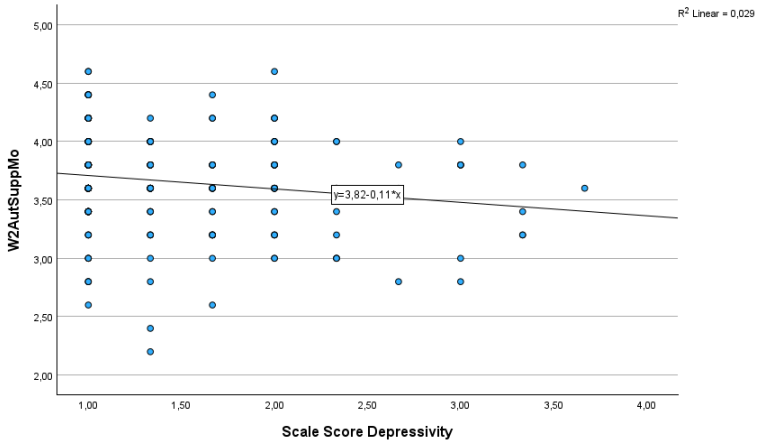



**Figure 7B**

*Mother Psychological Control and Anhedonia*

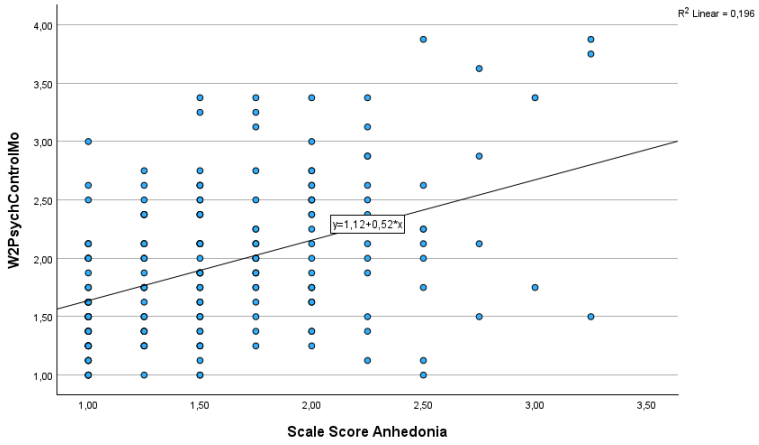



**Figure 8B**

*Mother Psychological Control and Anxiousness*

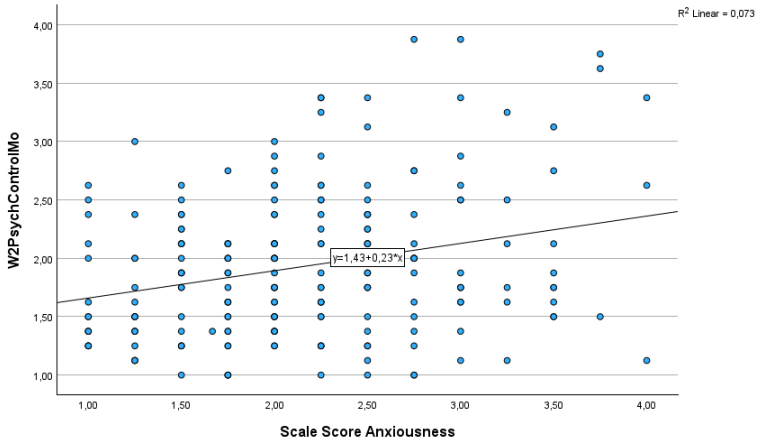



**Figure 9B**

*Mother Psychological Control and Depressivity*

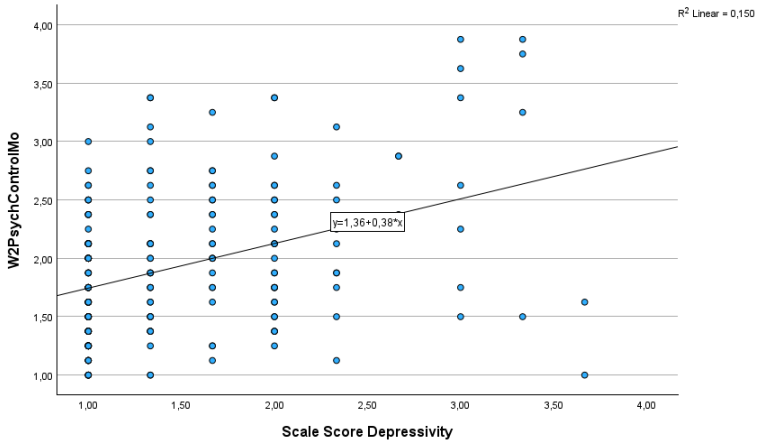



**Figure 10B**

*Father Responsiveness and Anhedonia*

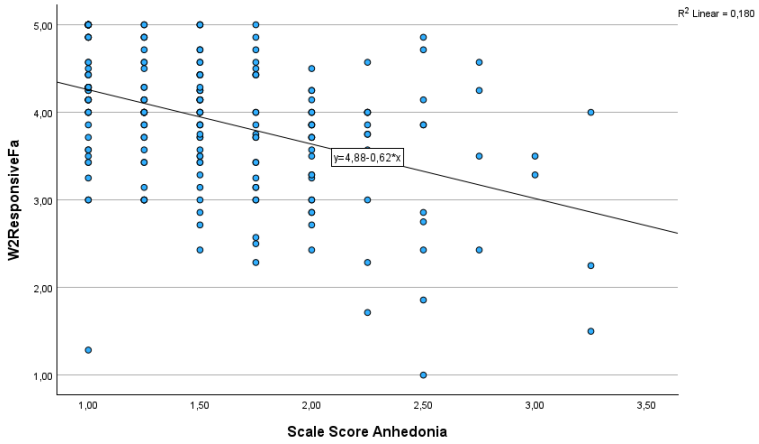



**Figure 11B**

*Father Responsiveness and Anxiousness*

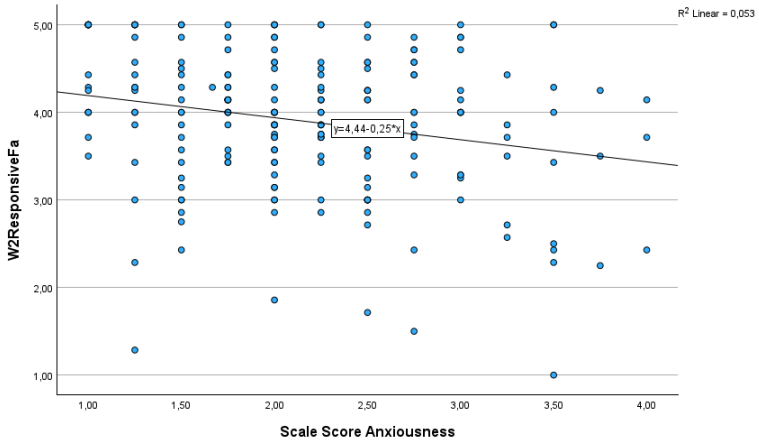



**Figure 12B**

*Father Responsiveness and Depressivity*

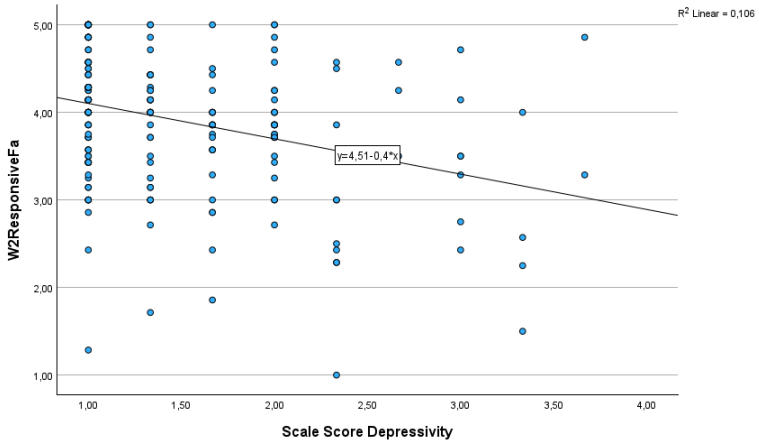


**Figure 13B**

*Father Autonomy Support and Anhedonia*

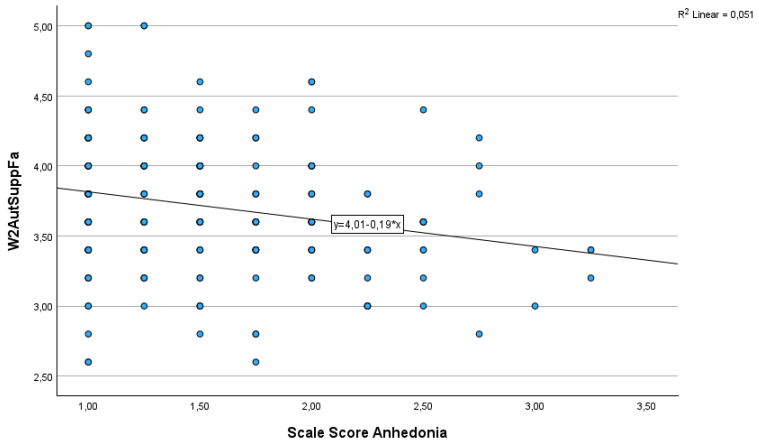



**Figure 14B**

*Father Autonomy Support and Anxiousness*

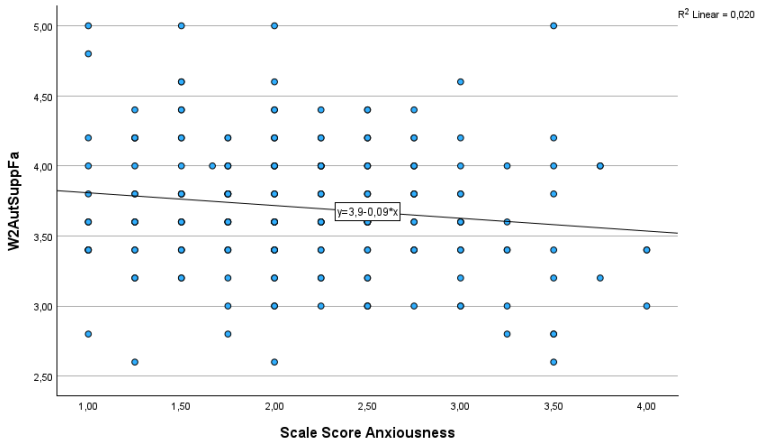


**Figure 15B**

*Father Autonomy Support and Depressivity*

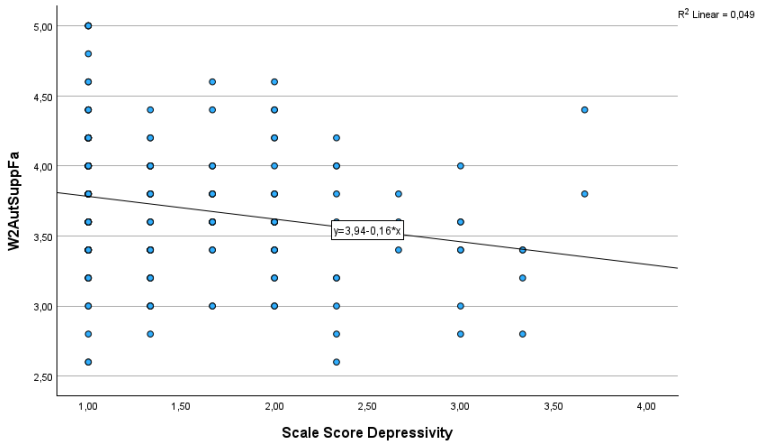



**Figure 16B**

*Father Psychological Control and Anhedonia*

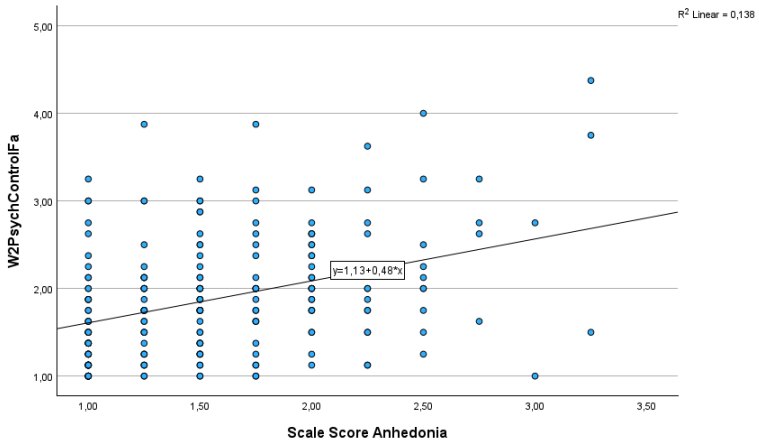



**Figure 17B**

*Father Psychological Control and Anxiousness*

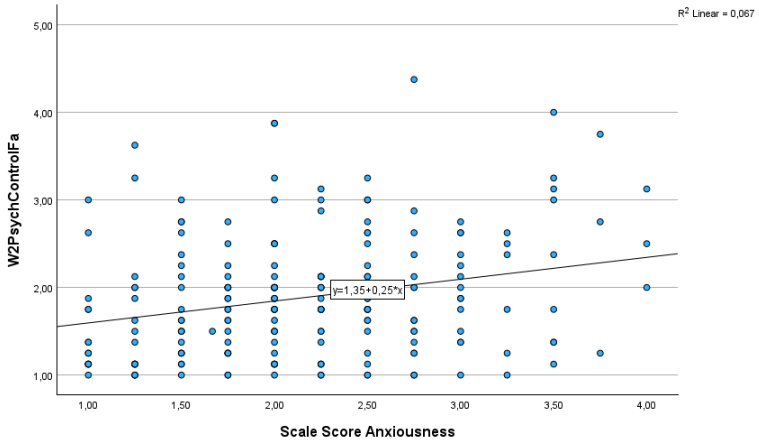
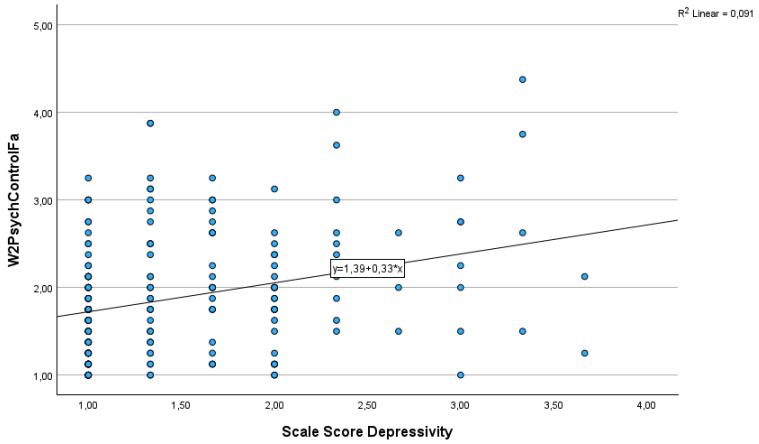



**Figure 18B**

*Father Psychological Control and Depressivity*



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