

PERCEIVED PARENTAL WARMTH AS A MODERATOR



THE MODERATING ROLE OF PERCEIVED PARENTAL WARMTH IN THE RELATIONSHIP
BETWEEN DARK TRIAD TRAITS AND FILIAL PIETY AMONG YOUNG ADULTS IN
MALAYSIA

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Universiti Tunku Abdul Rahman

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LEONG YING SHUANG

TANG SHI SHI

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DECLARATION

We declare that the material contained in this paper is the end result of our own work and that due acknowledgement has been given in the bibliography and references to ALL sources be they printed, electronic or personal.

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APPROVAL FORM

This research paper attached hereto, entitled “The Moderating Role of Perceived Parental Warmth in The Relationship Between Dark Triad Traits and Filial Piety Among Young Adults in Malaysia” prepared and submitted by Leong Ying Shuang, and Tang Shi Shi in partial fulfilment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

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Dr. Au Zher Wen

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PERCEIVED PARENTAL WARMTH AS A MODERATOR

Abstract

This study examined the associations between Dark Triad personality traits (Machiavellianism, narcissism, and psychopathy) and filial piety among Malaysian young adults, as well as the moderating role of perceived parental warmth. A total of 215 participants aged 18–33 completed validated measures of the Short Dark Triad (SD3), Dual Filial Piety Scale (DFPS), and Adult Parental Acceptance–Rejection Questionnaire (PARQ). Pearson’s correlation analyses showed that Machiavellianism and psychopathy were positively associated with authoritarian filial piety, whereas narcissism showed no significant relationship. For reciprocal filial piety, Machiavellianism showed a positive correlation, psychopathy showed a negative correlation, and narcissism again showed no association. Moderation analyses using PROCESS Macro Model 1 indicated that perceived parental warmth did not significantly alter most associations between Dark Triad traits and filial piety. However, perceived parental warmth significantly strengthened the association between psychopathy and authoritarian filial piety. The findings suggest that authoritarian filial attitudes may be more sensitive to self-serving or exploitative personality tendencies, whereas reciprocal filial piety is minimally shaped by such traits. Although parental warmth is beneficial in broader parenting research, but it did not buffer or amplify most of these associations. This study extends filial piety research by integrating personality psychology with contemporary Malaysian family dynamics.

Keywords: Perceive parental warmth, dark triad, filial piety

Subclass: HM1106-1171 Interpersonal relations. Social behavior

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List of Abbreviations

Abbreviations	Description
RFP	Reciprocal Filial Piety
AFP	Authoritarian Filial Piety
DFPM	Dual Filial Piety Model
DFPS	Dual Filial Piety Scale
Adult PARQ-SF	The Adult Parental Acceptance–Rejection Questionnaire—Short Form
SD3	Short Dark Triad Scale

Chapter 1

Introduction

Background of study

Filial piety is a Confucianism concept, and it reflects the idea of children treating their parents by fulfilling the parents' emotional and material needs (Yeh & Bedford, 2003). It is the responsibility for the child to care, respect, support, love and obey towards their parents (Chen, 2014). In the context of Malaysia, a collectivist and multicultural society, the values of filial piety are widely practiced (Tan et al., 2018).

According to Yeh and Bedford (2003), there are two types of filial piety, namely Reciprocal Filial Piety (RFP) and Authoritarian Filial Piety (AFP). Children are willing to take care of their parents needs and show them love and care because of sense of gratitude for their parents, which is shown in RFP. The child wishes to pay back their parents' effort for raising them. In this context, the parent-child relationship is characterized by mutual interaction rather than an imbalanced interaction dominated by the parents. There is also greater emotional closeness between the child and parent in this type of filial belief (Chen, 2014; Lin & Wang, 2022; Qiao et al., 2021; Yeh & Bedford, 2003).

In contrast, AFP reflects that a child's motivation to attend to their parents' needs is mainly due to having a sense of duty. The child is obligated to comply with the expected societal and cultural norms. The idea is that children are expected to be obedient and submissive towards their parents without question due to the parents' seniority and superior hierarchical role in the family. In this context, children are often expected to prioritise the interests of the family even if

the cost is suppressing their autonomy, needs or desires (Chen, 2014; Lin & Wang, 2022; Qiao et al., 2021; Yeh & Bedford, 2003).

The term “Dark Triad” was coined by Paulhus and Williams (2002). It consists of narcissism, Machiavellianism and psychopathy. Machiavellianism briefly refers to manipulative personality. Machiavellians typically have a negative attitude towards interpersonal connections because they believe that humans are naturally bad and will use any means required for achieving their own goals (Lyons et al., 2022). Niccolò Machiavelli, an Italian politician and historian, is recognised with creating the idea of Machiavellianism by emphasising realpolitik and pragmatism in power (Paulhus & Williams, 2014). Individuals with high Machiavellianism will often adopt strategies like manipulation and deception to achieve personal gain (Calaresi et al., 2024; Galan et al., 2025; Paulhus & Williams, 2002). According to previous study, men's Machiavellianism was linked to risk-taking, self-confidence, and an opportunistic worldview, but women's Machiavellianism scores were linked to characteristics such as anxiety, vulnerability, hypersensitivity, and harm avoidance (Czibor et al. 2017).

Furthermore, narcissism is characterized by an exaggerated sense of entitlement, self-importance, a need for praise, and a lack of empathy for other people. Individuals with high narcissism tend to be self-centered and feel entitled to special privileges. To maintain or boost their self-esteem and grandiose self-image, they may exploit others through methods like blaming, devaluing, gaslighting or portraying themselves as victims in order to regain the sense of superiority (Calaresi et al., 2024; Galan et al., 2025; Paulhus & Williams, 2002).

For psychopathy, it refers to impulsivity together with the lack of empathy, anxiety, guilt and remorse as well as associated with anti-social behaviours. Individuals with high psychopathy

tend to disregard societal norms and others' feelings or rights (Calaresi et al., 2024; Galan et al., 2025; Paulhus & Williams, 2002). These three types of personalities are essentially considered negative and share characteristics like emotional coldness, dishonesty, and aggression.

According to Calaresi et al. (2024), dark triad traits will disrupt the family dynamic and functioning. Individuals with high Machiavellianism might manipulate family members to achieve personal advantage, which can lead to mistrust in the family. Those with high psychopathy might disregard societal norms and even the family members' feelings or rights, which can lead to misunderstanding among family members. For individuals with high narcissism, they might devalue their family members to maintain their grandiose self-image, which leads to conflict in the family. This further supported by the study found that individuals with high dark triad traits are more likely to violate moral norms and engage in unethical behaviors (Qiao et al., 2021). Since filial piety advocates moral norms of obligation towards parents, it might be possible for the individuals with high dark triad traits to violate these norms.

Perceived parental warmth reflects an individual's belief about their parents' efforts and sacrifices to provide care and support (Cheah et al., 2012). Research shows that individuals who perceive their parents as warm, supportive, responsive, are more likely to develop RFP. In contrast, individuals who perceive their parents as controlling, strict, or emotionally cold are less likely to form RFP and more likely to form AFP (Chen, 2014; Lin & Wang, 2022). Warm and supportive parenting helps to satisfy an individual's need for autonomy, whereas cold and controlling parenting does not. When their needs are fulfilled, individuals tend to feel grateful and affectionate toward their parents, motivating them to repay and care for them. This fosters the development of RFP.

Not only that, but parental warmth is also capable of influencing an individual to develop the dark triad traits. Previous studies show that individuals who perceive less warm and positive feedback from their parents, they are more likely to develop dark triad traits (Jia et al., 2020; Liu et al., 2019). This can be explained by the individual's coping mechanism towards undesirable parenting or maltreatment. For example, previous research suggests that harsh or hostile parenting may contribute to the development of Machiavellian tendencies. People use deception and manipulation to protect themselves from their parents' hostility (Galan et al., 2025). For narcissism, individuals who did not have their emotional needs adequately met by their parents during childhood may develop narcissistic traits. Therefore, they seek constant admiration from others as a form of compensation to cope with this insecurity (Tajmirriyahi et al., 2021). For psychopathy, both genetic and environmental factors contribute to its development. In terms of environmental influences, parenting that lacks warmth, together with neglect, abuse, and excessive control can lead individuals to develop impulsivity, lack of empathy and guilt as well as a general disregard for others' feelings and rights (Galan et al., 2025; Tajmirriyahi et al., 2021).

In summary, filial piety reflects moral obligations towards one's parents whereas the Dark Triad traits are often positively associated with moral disengagement. With such contrast and considering perceived parental warmth may influence both constructs, it is essential to investigate the relationships among these variables.

Hypotheses

H1a: Machiavellianism negatively predict reciprocal filial piety among young adults in Malaysia.

H1b: Psychopathy negatively predict reciprocal filial piety among young adults in Malaysia.

H1c: Narcissism negatively predict reciprocal filial piety among young adults in Malaysia.

H2a: Machiavellianism positively predict authoritarian filial piety among young adults in Malaysia.

H2b: Psychopathy positively predict authoritarian filial piety among young adults in Malaysia.

H2c: Narcissism positively predict authoritarian filial piety among young adults in Malaysia.

H3a: Perceived parental warmth moderates the relationship between the Machiavellianism and reciprocal filial piety among young adults in Malaysia.

H3b: Perceived parental warmth moderates the relationship between the psychopathy and reciprocal filial piety among young adults in Malaysia.

H3c: Perceived parental warmth moderates the relationship between the narcissism and reciprocal filial piety among young adults in Malaysia.

H4a: Perceived parental warmth moderates the relationship between the Machiavellianism and authoritarian filial piety among young adults in Malaysia.

H4b: Perceived parental warmth moderates the relationship between the psychopathy and authoritarian filial piety among young adults in Malaysia.

H4c: Perceived parental warmth moderates the relationship between the narcissism and authoritarian filial piety among young adults in Malaysia.

Research Questions

1. Do Dark Triad (Machiavellianism, psychopathy, and narcissism) negatively predict reciprocal filial piety among young adults in Malaysia?
2. Do Dark Triad (Machiavellianism, psychopathy, and narcissism) positively predict authoritarian filial piety among young adults in Malaysia?
3. Does perceived parental warmth moderate the relationship between Dark Triad (Machiavellianism, psychopathy, and narcissism) and reciprocal filial piety among young adults in Malaysia?
4. Does perceived parental warmth moderate the relationship between Dark Triad (Machiavellianism, psychopathy, and narcissism) and authoritarian filial piety among young adults in Malaysia?

Significance of Study

This study aims to fill a gap in Malaysian psychological research by examining how dark triad personality traits (Machiavellianism, narcissism, and psychopathy) relate to filial piety among young adults, with perceived parental warmth considered as a potential moderating factor. In collectivist cultures like Malaysia, filial piety remains a deeply rooted cultural norm, especially among Chinese Malaysians, shaping intergenerational expectations such as respect, caregiving, and emotional reciprocity (Cheah et al., 2012; Ismail et al., 2009). However, there is limited research exploring how dark triad personality traits may be associated with prosocial familial values.

Most research on the dark triad has focused on antisocial behaviors such as aggression, manipulation, and interpersonal dysfunction (Jones & Paulhus, 2014), while fewer studies have examined whether these traits affect culturally expected prosocial behaviors. By focusing on filial piety, this study provides a new cultural perspective on how these behaviors develop in collectivist societies. Emerging adulthood is a developmental stage marked by identity exploration and increasing autonomy (Arnett, 2000). Previous study indicated that emerging adults (18–25 years old), a stage in which individuals often experience a stronger sense of family obligation as they transition from adolescence to young adulthood (Fuligni & Pedersen, 2002). Research shows that filial piety continues to shape wellbeing among young adults in this age range (Chung et al., 2024). A longitudinal study in Taiwan found that filial piety during adolescence predicts greater independence in emerging adulthood (Huang & Chen, 2023). Moreover, research shows that married, older, and more educated individuals tend to endorse and practice filial piety more strongly, whereas younger adults who are still students may report lower levels of filial piety (Dong & Xu, 2016). Prior Malaysian studies have shown that RFP is linked with well-being (Tan et al., 2018; Nainee et al., 2021). However, little work has explored the personality antecedents of these values.

Furthermore, previous studies have established the influence of parenting, particularly parental warmth, has been shown to play a significant role in filial development. For instance, Cheah et al. (2012) found that perceived maternal warmth and support significantly mediated the relationship between adolescents' filial emotions and their filial behaviors among Chinese Malaysian adolescents. More broadly, perceived parental warmth has been linked to reduced aggression in youth, with Machiavellianism and psychopathy mediating this relationship (Liu et

al., 2019). However, few studies have examined whether perceived parental warmth can moderate the impact of dark triad traits on filial piety.

This study is among the first to propose perceived parental warmth as a moderator in this relationship. In collectivist societies like Malaysia, where authoritarian parenting is commonly practiced but collectivist and individualistic values may coexist (Masiran, 2022), this moderation effect carries strong cultural relevance. If parental warmth is found to mitigate the negative influence of dark triad traits, it would highlight the protective role of emotionally supportive parenting, even for individuals with high-risk personality profiles (Liu et al., 2019).

Hence, this study is conducted in a non-Western, multicultural Southeast Asian context, as Malaysia represents a collectivist and multiracial society (Nainee et al., 2021). Malaysian young adults remain comparatively underrepresented in the literature. By addressing this gap, the present study contributes to cross-cultural psychology and expands global understanding of personality and family dynamics in diverse cultural contexts.

Problem Statement

People with Dark Triad traits tend to exhibit lower empathy, manipulative behaviours, a lack of intimacy in interpersonal relationships, and a tendency toward unethical conduct. These characteristics can significantly disrupt close relationships, particularly within family settings, where emotional bonds and obligations are expected to be strong (Qiao et al., 2021; Yap & Berezina, 2021). These bring a concern that people with dark triad personality may treat their parents unwell since individuals with high levels of Dark Triad traits tend to pursue their desires without regard for how their actions affect others and are also more likely to experience schadenfreude, taking satisfaction in the misfortunes of others. Previous study explored Dark

Triad correlate with unempathetic or antisocial behaviours such as cyberbullying or workplace deviance (LeBreton, 2018; Panatik et al., 2022). Related to filial piety, previous study has investigated the relationship between filial piety belief and moral disengagement with dark triad as moderators. However, correlation between dark triad and filial piety remain unknown.

In contrast, research shows that parental warmth and support play a crucial role in promoting filial behaviours. In the Malaysian context, Cheah et al. (2012) demonstrated that parental warmth and support significantly influence filial behaviour, highlighting the importance of nurturing parenting in developing a sense of filial responsibility. Studies conducted in China and Germany found that parental emotional warmth was negatively associated with Machiavellian and psychopathic traits (Liu et al., 2019; Yendell, 2022). Although these results imply that parental warmth may serve as a buffer against the development of Dark Triad traits and foster filial piety, it is unclear if perceived parental warmth can moderate the association between filial piety and Dark Triad traits, especially among Malaysian young adults.

Additionally, studies found that Dark Triad traits are linked to negative family dynamics shaped during childhood (Ferencz et al., 2022). However, the role of perceived parental warmth in disrupting or buffering these pathways remains unclear. This underscores the empirical gap in exploring whether perceived paternal warmth can moderate the negative impact of narcissism, Machiavellianism, and psychopathy on filial behaviour in Malaysian young adults.

Malaysia's culturally rooted family values and emphasis on respect for elders, filial piety may be shaped by both individual personality traits and perceived parenting practices. Previous research has shown that filial piety in Malaysia is deeply embedded in collectivist values and is strongly influenced by culturally guided parenting approaches, such as *guan* parenting, which

emphasizes warmth, involvement, and moral guidance from parents (Nainee et al., 2021). Furthermore, a study by Tan et al. (2018) found that life satisfaction and RFP had significant correlations with ethnicity alone, highlighting the importance of culturally grounded family norms. Building on this foundation, the present study explores whether Dark Triad traits predict levels of filial piety among Malaysian young adults, and whether this relationship is moderated by perceived paternal warmth.

Understanding how these variables interact in the Malaysian context may provide deeper insight into how personality and parent–child relationships influence family-related obligations. Therefore, to better inform future family-based interventions and improve intergenerational dynamics, it is crucial to explore the extent to which these predictors influence filial piety.

Conceptual Definitions

In this study, the terms “Dark Triad”, “Dark Triad traits”, and “Dark Triad personality” are used interchangeably to represent these three interlinked dimensions. The Dark Triad comprises three interrelated subclinical personality traits which are narcissism, Machiavellianism, and psychopathy. These traits are moderately interrelated, and share characteristics such as self-centeredness, coldness, and manipulation (Rauthmann & Kolar, 2012). Although they are considered subclinical and can be observed in normal populations, they are associated with socially aversive tendencies (Paulhus & Williams 2002). Narcissism is characterized by grandiosity, a sense of entitlement, exhibitionism and a lack of empathy (Raskin & Terry 1988). Machiavellianism reflects a strategic and manipulative approach to relationships with a focus on personal gain and limited emotional involvement (Christie & Geis 1970).

Psychopathy involves impulsivity, antisocial behaviour, emotional shallowness and lack of remorse (Hare, 1991).

Filial piety is a cultural value that reflects respect, care and moral responsibility toward parents and elders. The Dual Filial Piety Model (DFPM) describes two forms of filial piety. RFP is based on genuine affection and gratitude toward parents. AFP is based on obedience and fulfilling parental expectations out of duty (Yeh & Bedford 2003). In Malaysia filial piety remains an important social value. Research shows that parenting practices such as parental involvement (Nainee et al., 2021) and autonomy support (Tan et al., 2018) can strengthen filial piety among adolescents.

According to parental acceptance–rejection theory, the warmth dimension of parenting refers to the affection, care, nurturance, and support that children perceive from their parents (Rohner, 2004). This warmth can be expressed through actions such as attentive listening, giving praise and spending quality time together. Meta-analytic evidence shows that perceived parental acceptance (warmth and affection) is universally associated with better psychological adjustment in both children and adults (Khaleque & Rohner 2002). Low perceived warmth has been consistently associated with externalizing behaviors (Pinquart, 2017; Sentse et al., 2009). Furthermore, psychopathy and related Dark Triad traits have been conceptualized as developmental outcomes of adverse environments and are recognized as socially aversive personality traits (Gao & Raine, 2010; Muris et al., 2017).

Operational Definitions

Dark Triad traits will be measured using the 27-item Short Dark Triad (SD3; Jones & Paulhus, 2013). SD3 assesses three socially aversive personality traits which are

Machiavellianism, Narcissism, and Psychopathy. Subscale scores are computed by averaging the items, with higher scores indicating higher endorsement of the respective Dark Triad trait.

Filial piety will be measured using the 16-item Dual Filial Piety Scale (DFPS; Yeh & Bedford, 2003). The scale assesses two dimensions of filial piety beliefs which are Reciprocal Filial Piety (RFP) and Authoritarian Filial Piety (AFP). RFP reflects gratitude, love, and voluntary support toward parents while AFP reflects obedience, compliance, and suppression of personal wishes to fulfill parental expectations. Higher scores indicate stronger endorsement of filial piety beliefs.

Perceived parental warmth will be measured using the Warmth/Affection subscale of the Adult Parental Acceptance–Rejection Questionnaire (Adult PARQ; Rohner, 2005). This subscale assesses the extent to which individuals recall their parents as loving, caring, supportive, and affectionate during their upbringing. Higher scores suggest more parental rejection, whereas lower scores reflect more parental acceptance.

Chapter 2

Literature Review

Dark Triad Personality

The concept of the ‘dark triad’ describing three socially aversive yet non-pathological traits, which are Machiavellianism, subclinical psychopathy, and narcissism (Paulhus & Williams, 2002). Although these traits have similar characteristics, such as low agreeableness, callousness, and an exploitative social style, which all have an impact on interpersonal relationships, underlying reasons are different. Machiavellianism is characterized by strategic manipulation and a cynical worldview, while narcissism is characterized by grandiosity and a desire for admiration, as well as psychopathy by impulsivity, emotional coldness, and poor behavioral control (Jones & Paulhus, 2014). These traits are considered subclinical, meaning they are present in the general population without causing obvious symptoms or reaching clinical severity. However, they have been consistently linked with negative consequences, including aggression, moral disengagement, interpersonal problems, and reduced empathy (Muris et al., 2017).

Filial Piety

Filial piety is a foundational virtue in Confucianism, encompassing children’s moral obligation to respect, care for, and support their parents (Yeh & Bedford, 2003). The DFPM distinguishes between RFP, which is rooted in gratitude and emotional bonds, and AFP, which is grounded in obedience and fulfillment of prescribed family roles (Bedford & Yeh, 2019). Across Chinese and collectivist cultures, RFP has been consistently associated with higher psychological well-being, life satisfaction, and harmonious family relations (Chung et al., 2024; Nainee et al.,

2019). However, AFP has shown mixed associations play a role of preserving family order, but it is correlating with depressive symptoms, eating disorders or relational conflict (Han & Cheung, 2025; Pan & Tang, 2021; Yeh & Bedford, 2003). In Malaysia, a multicultural society with collectivist traditions, filial piety continues to serve as an intergenerational moral norm that influences life satisfaction and social harmony (Nainee et al., 2021). Importantly, perceived parental warmth has been identified as a key factor in strengthening the positive psychological effects associated with filial behaviours (Cheah et al., 2012).

Machiavellianism and Filial Piety

Machiavellianism is often linked to unethical behaviour and moral disengagement due to its characteristics of manipulateness, self-centeredness, and utilitarianism (Barbaranelli et al., 2018; Czibor et al., 2017). This is supported by the study found that RFP negatively associates with moral disengagement and it also indirectly achieves this effect through the mediating function of Machiavellianism (Qiao et al., 2021). It emphasized that RFP lowers moral disengagement directly or indirectly by weakening Machiavellianism. Furthermore, the statement also supported by a study examines the mediator role of moral disengagement in the relationship between Machiavellian behaviour and moral perfectionism found that Machiavellian behaviour was positively correlated with moral disengagement and negatively correlated with personal moral standards perfectionism (Abdollahi et al., 2020). Additionally, Gao et al. (2025) reported that Machiavellianism negatively correlates with prosocial behaviour, and this effect was mediated by diminished hope and increased loneliness. Consistently, longitudinal research found that people who are high in Machiavellianism are more likely to engage in antisocial and maladaptive behaviours (Sijtsema et al., 2019). These studies highlighted that Machiavellianism

fosters self-serving and morally disengaged tendencies contradicts the relational and obligation-driven nature of filial piety.

Psychopathy and Filial Piety

Psychopathy is not classified as a distinct disorder in the DSM-5 but is often examined under antisocial personality disorder (ASPD) due to shared features such as impulsivity, deceitfulness, and lack of remorse (American Psychiatric Association, 2013). It involves traits like callousness, showing shallow emotions, and not feeling guilty, which also appear in non-clinical populations (Hare & Neumann, 2009). The triarchic model conceptualizes psychopathy as boldness, meanness, and disinhibition (Patrick et al., 2009). While boldness may sometimes foster adaptive outcomes such as confidence and leadership, meanness and disinhibition are strongly linked to antisocial behavior and emotional coldness (Cho et al., 2012; Muris et al., 2017).

Parenting plays a significant role in the development of psychopathic traits. Research has shown that higher parental warmth predicts lower psychopathy in youth, whereas parental warmth can serve as a protective factor against antisocial tendencies (Liu et al., 2019). Similarly, warmth and support from caregivers have been found to buffer the negative effects of psychopathic tendencies, while cold or uninvolved parenting exacerbates them (Chinchilla & Kosson, 2015). These findings highlight how parenting styles influence whether psychopathic traits manifest in more adaptive or disruptive ways.

Extending to filial contexts, psychopathic individuals often prioritize self-interest, show poor impulse control, and lack empathy (Levenson et al., 1995; Muris et al., 2017). Recent evidence suggests that psychopathy is associated with weaker RFP but stronger AFP, reflecting

obligations driven more by duty than genuine affection (Zhao et al., 2023). This reinforces the idea that psychopathy's disruptive effect on prosocial values, making it one of the most socially disruptive traits within the Dark Triad.

Narcissism and Filial Piety

According to the DSM-5, narcissism is described under narcissistic personality disorder (NPD) and is characterized by a pervasive pattern of grandiosity, entitlement, and an enduring need for admiration (American Psychiatric Association, 2013). Scholars distinguish between grandiose narcissism, which reflects assertiveness and confidence, and vulnerable narcissism, which reflects defensiveness and insecurity (Miller et al., 2011). Although narcissism can sometimes promote leadership and self-esteem, it is also linked to low empathy, entitlement, and conflict (Miller et al., 2011; Campbell & Campbell, 2009). Research shows that narcissism often develops when parents overvalue their children, fostering inflated self-views (Brummelman et al., 2015). In cultural contexts that emphasize filial piety, such inflated self-views may clash with expectations of modesty and deference toward parents.

Narcissism has been consistently associated with independent self-construal across cultures (Foster et al., 2017). In collectivist contexts such as Malaysia, even narcissistic individuals may still engage in filial practices, though often to boost their own image or uphold family reputation. However, research with Chinese Malaysian adolescents shows that when parents express warmth and support, children are more likely to develop genuine filial feelings and behaviors (Cheah et al., 2012). This suggests that warmth nurtures RFP, which is grounded in affection rather than obligation. In this way, perceived parental warmth may buffer against

narcissism's self-focused tendencies by fostering sincere filial responsibility rather than strategic compliance.

Cross-cultural evidence shows that AFP tends to heighten moral disengagement, though it may also reduce disengagement by inhibiting narcissistic tendencies. In contrast, RFP directly lowers moral disengagement and does so indirectly by weakening self-interested traits such as Machiavellianism (Qiao et al., 2021). Overall, these findings suggest that parental warmth promotes RFP and weakens narcissism's negative influence, whereas AFP presents a more contradictory pathway.

Perceived Parental Warmth as Moderator

Perceived parental warmth, commonly described as the degree of affection, support, and emotional responsiveness that children perceive from their parents, is a key contextual factor in developmental outcomes (Cheah et al., 2012). Beyond its direct benefits for psychological adjustment, parental warmth often functions as a moderator, shaping the strength and direction of relationships between personality traits, values, and psychosocial outcomes.

Evidence shows that parental warmth moderates the intergenerational transmission of values. For instance, Chen et al. (2024) found that parental emotional warmth and intergenerational involvement reduced the strength of utilitarian values passed from parents to children. In high-warmth families, children were less likely to internalize self-centred or pragmatic values, suggesting that warmth buffers against adopting detached ways of thinking. Similarly, Wang et al. (2023) demonstrated that perceived parental warmth predicted higher levels of prosocial behaviour and self-esteem, underscoring its promotive and protective role in adolescent development.

Parental warmth also interacts with filial values. Cheah et al. (2012) reported that perceived parental investments, warmth, and support were positively associated with filial behaviours among Chinese Malaysian adolescents. Likewise, Leung and Shek (2024) showed that maternal warmth moderated the relationship between emotional filial responsibility and life satisfaction among Hong Kong adolescents, such that filial duties were experienced as rewarding only when maternal warmth was high. These findings highlight that parental warmth enhances the meaning of filial responsibilities and prevents them from becoming burdensome.

Research further links parental warmth with the development of socially aversive traits. The Dark Triad, Machiavellianism, narcissism, and psychopathy has environmental roots (Qin & Xu, 2013), with parenting quality identified as a significant factor (Barlett, 2016; Jonason et al., 2014). Parental warmth in particular plays a protective role. Children who experience higher parental warmth show fewer callous–unemotional traits which is one of the characteristics of psychopathy, even after accounting for genetic influences (Waller et al., 2018). Conversely, low parental warmth has been associated with increases in psychopathic traits (Pardini et al., 2007). Liu et al. (2019) further demonstrated that parental warmth weakened the expression of Machiavellianism and psychopathy, thereby reducing aggressive behaviours in adolescents and young adults. In the Malaysian context, Nainee et al. (2021) found that maternal warmth and involvement predicted stronger RFP, whereby filial duties are motivated by affection and gratitude rather than obligation. This finding supports the role of warmth in fostering positive relational values across cultural settings.

Overall, the literature consistently demonstrates that parental warmth operates as a moderator across diverse relational contexts. It can weaken the transmission of self-interested values (Chen et al., 2024), enhance the positive impact of filial responsibilities (Leung & Shek, 2024), and diminish the expression of darker personality traits (Liu et al., 2019). Although no prior study has directly tested whether parental warmth moderates the link between Dark Triad traits and filial piety, existing evidence strongly suggests this possibility. Warm and supportive parenting may buffer the negative influence of manipulative and self-serving tendencies, enabling RFP to emerge more strongly. Addressing this gap, the present study investigates whether perceived parental warmth moderates the relationship between Dark Triad traits and filial piety among Malaysian young adults.

Constructive Discussion of Related Publications

Multiple studies reinforce the anticipated relationships proposed in the present research. Qiao et al. (2021) demonstrated that Machiavellianism undermines the moral influence of RFP, consistent with the prediction of a negative association between Dark Triad traits and filial piety. Cheah et al. (2012) reported that perceived parental warmth significantly predicted filial behaviours, supporting the idea that warmth can buffer negative personality influences. Similarly, a study about family factors influencing the development of Dark Triad personality traits found that parental warmth was negatively associated with psychopathy and positively associated with narcissism, highlighting the potential moderating role of perceived parental warmth (Ferencz et al., 2022). Liu et al. (2019) further extended this evidence by showing that parental emotional warmth reduced aggression in youth through the mediating effect of Dark Triad traits, suggesting that warmth can weaken maladaptive personality tendencies that otherwise promote antisocial outcomes. However, inconsistencies are shown in the literature. For

instance, the association between narcissism and filial piety can change based on whether the filial purpose is authoritarian or reciprocal (Qiao et al., 2021). Overall, the evidence suggests broad support for the hypothesized relationships, while also indicating that trait-specific patterns should be considered in interpreting results.

Theoretical Framework

This study is framed and supported by Parental Acceptance-Rejection Theory. Parental Acceptance-Rejection Theory will be used to explain the role of perceived parental warmth as a moderator for the relationship of Dark Trait Triad and Filial Piety.

Parental Acceptance-Rejection Theory (PARTheory)

This study adopts Parental Acceptance-Rejection Theory (PARTheory) as the theoretical foundation for understanding perceived parental warmth (Rohner, 2005). The warmth, affection, care, comfort, concern, nurturing, support, or just pure love that children can receive from their parents and other caretakers is known as parental acceptance. In contrast, rejection is expressed in coldness, hostility and neglect. According to PARTheory, humans have a universal, biologically based need for warmth and positive responses from significant others, particularly parents. Parental warmth provides the foundation for children's emotional security and psychological adjustment. Parents, as unique attachment figures, play a critical role in shaping personality and well-being, with perceived parental warmth being strongly associated with lower anxiety, greater emotional stability, and overall psychological health. In contrast, the absence of warmth, or experiences of rejection, predispose individuals to insecurity, dependence, and maladjustment. Thus, perceived parental warmth serves as an essential protective factor influencing how individuals internalize values such as filial piety, even into adulthood.

Conceptual Framework

Figure 1 presented the study's conceptual framework proposes that Machiavellianism, narcissism, and psychopathy predict two dimensions of filial piety, namely reciprocal filial piety and authoritarian filial piety. Perceived parental warmth is included as a moderator that may influence the strength or direction of these relationships. Machiavellianism, narcissism, and psychopathy are the independent variables, and filial piety was examined as dependent variable while perceive parental warmth as moderator.

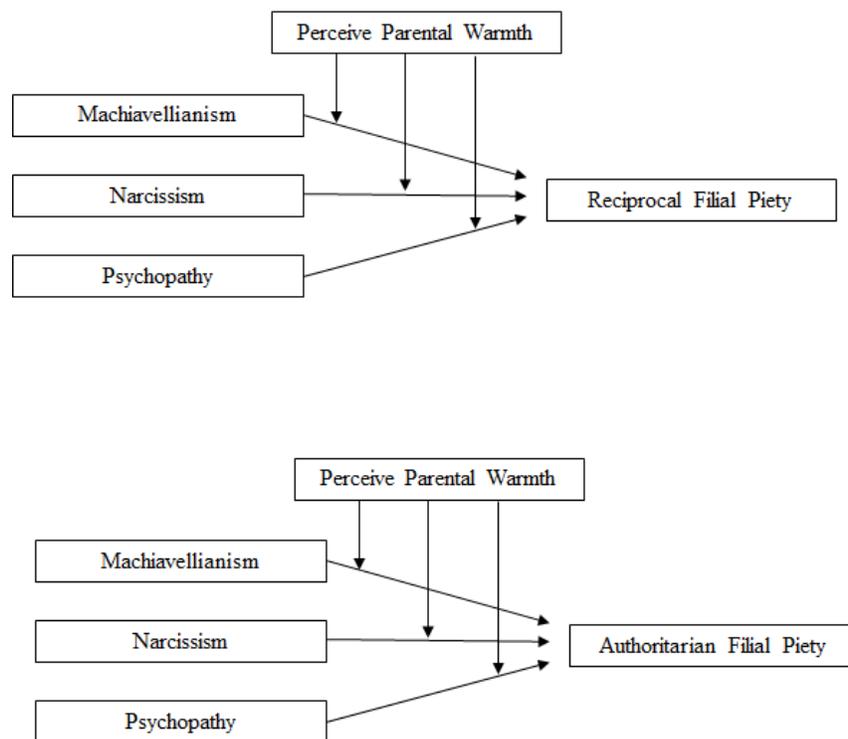


Figure 1. Conceptual framework for the study on the moderating role of perceived parental warmth in the relationship between dark triad traits and filial piety among young adults in Malaysia.

Chapter 3

Methodology

Research Design

This study adopted a correlational, cross-sectional survey design to examine whether perceived parental warmth moderated the relationship between Dark Triad traits (Machiavellianism, narcissism, and psychopathy) and filial piety among Malaysian young adults. A cross-sectional design is appropriate because it enables the collection of quantitative data at a single point in time, allowing examination of associations among variables without manipulating conditions (Creswell & Creswell, 2018). Furthermore, this method allows for rapid data collection from a broad sample and is cost-efficient, making it particularly suitable for student research (Setia, 2016).

Participants were asked to complete three self-report questionnaires: the Short Dark Triad (SD3), the Dual Filial Piety Scale (DFPS), and the Adult Parental Acceptance–Rejection Questionnaire – Short Form (Adult PARQ-SF). In addition to the scale responses, demographic information was collected, including age, gender, and ethnicity. Data analysis involved descriptive statistics and correlation analyses to explore initial relationships among the variables. The PROCESS macro for SPSS for regression and moderation analyses was used to assess the study hypotheses (Hayes, 2018).

Sampling Procedures

Purposive sampling, a non-probability sampling approach, was used to recruit participants. Purposive sampling is based on the researcher's judgment in selecting individuals who satisfy specific criteria (Etikan et al., 2016). This study's criteria required participants to be

young adults aged between 18–35 and currently residing in Malaysia. Those who did not meet this requirement were not allowed to participate. Purposive sampling has several advantages, including the ability to save time and money. Data collection was carried out within the Malaysian context using an online survey. The survey link was distributed via commonly used social and communication platforms, such as Instagram, WhatsApp, and Microsoft Teams and through QR code sharing.

Ethical clearance for this study was applied and obtained to ensure that all research procedures complied with established ethical standards and upheld the principles of honesty, fairness, and integrity. Questionnaires were examined before data collection to ensure adherence to ethical guidelines and alignment with Malaysia's Personal Data Protection Act (PDPA). The application was reviewed and approved by the UTAR Scientific and Ethical Review Committee (SERC) (Refer to Appendix A1).

Sample Size, Power, and Precision

The sample size was established through an a priori power analysis conducted using G*Power 3.1.9.4, specifying an F test for linear multiple regression (fixed model, R^2 increase). Since there is lack of prior studies, a pilot test was conducted to estimate the effect size, and the obtained R^2 value was used to calculate Cohen's f^2 (Whitehead et al., 2016). Correlations among Machiavellianism, narcissism, psychopathy, filial piety, and perceived parental warmth were examined, and the resulting effect sizes ($f^2 = 0.03, 0.03, \text{ and } 0.04$) indicated small interaction effects (Refer to Appendix B1).

Using this effect size, with an alpha level of .05 and desired statistical power of .80, the highest sample size was selected with a minimum of 264 participants would be required (Refer to Appendix B1). However, practical considerations such as time constraints and resource limitations necessitated a more feasible target sample size. Referring to methodological guidance suggesting that approximately 200 participants is adequate for studies involving small populations, the study set a recruitment aim of at least 200 valid responses (Israel, 1992). Ultimately, 330 responses were obtained, and after data removal of incomplete, invalid, or low-quality cases, a final sample of 215 participants (65%) was retained for analysis.

Data Collection Procedures

Participants were required to be Malaysian nationals aged 18–35 years who were able to read English. Responses were excluded if they were duplicates, failed attention checks, demonstrated unusually short completion times, or showed patterned or non-differentiated answering. Informed consent was obtained online in Qualtrics. At the beginning of the survey, participants were provided with an information sheet outlining the purpose of the study, voluntary participation, confidentiality of responses, and their right to withdraw at any time before submitting the questionnaire. Only individuals who gave electronic consent were permitted to proceed.

Data were collected via an online questionnaire developed in Qualtrics over a two-month recruitment period. A poster that included QR code of the survey was made to encourage people to complete the online survey. The survey link was disseminated through social media platforms such as Facebook, Instagram, WhatsApp, as well as through QR-code sharing. The survey began with demographic questions including age, gender and ethnicity, followed by the Adult Parental

Acceptance–Rejection Questionnaire – Short Form (Adult PARQ-SF) to measure perceived parental warmth, the Dual Filial Piety Scale (DFPS) to assess filial piety, and the Short Dark Triad (SD3) to evaluate personality traits. Attention-check items were embedded to ensure data quality.

Instruments

The Adult Parental Acceptance–Rejection Questionnaire—Short Form

Adult PARQ-SF, created by Rohner (2005), was used to measure remembered parental acceptance or rejection in adulthood. The short form consists of 24 items, covering four subscales including warmth/affection, hostility/aggression, indifference/neglect, and undifferentiated/ rejection. Subscales warmth/affection was used to study perceived parental warmth. Responses are given on a 4-point Likert scale, ranging from 1 (*almost never true*) to 4 (*almost always true*). Higher scores suggest more parental rejection, whereas lower scores reflect more parental acceptance. The instrument showed high reliability with Cronbach alphas ranging from .81 through .97 (Kuyumcu & Altın, 2024).

Dual Filial Piety Scale

Moreover, the DFPS, developed by Yeh and Bedford (2003), was used to assess beliefs about filial obligations. The scale is made up of 16 items, divided into two subscales which are RFP and AFP, each consisting of 8 items. Items are rated on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Each dimension was given a sum score, where higher scores indicated greater filial piety. Reliability of the instruments has been supported in prior research, with the Cronbach alpha was 0.70 for AFP, and 0.79 for RFP (Nainee et al., 2021).

Short Dark Triad Scale

SD3, developed by Jones and Paulhus (2014), was used to measure three socially aversive personality traits including Machiavellianism, Narcissism, and Psychopathy. The scale consists of 27 items, with 9 items for each trait. Responses are rated on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher subscale scores correspond to greater endorsement of the respective Dark Triad trait. Cronbach's alpha values ranging between .71, .77, and .80 for narcissism, Machiavellianism, and psychopathy respectively.

Reliability of the Instruments

Cronbach's alpha (α) was used in reliability testing to evaluate the internal consistency of each instrument for both the pilot study (N = 40) and the main study (N = 215). The acceptable reliability is indicated by a Cronbach's alpha between .60 and .70, while great reliability is indicated by values above .80 (Khanal and Chhetri, 2024). However, alpha values greater than .95 may indicate overlapping or repetitive elements, therefore care should be taken when interpreting such results. Every scale in this study showed internal consistency that was between acceptable and highly satisfactory, falling between the suggested range of .70 to .95.

$\alpha = .876$ for perceived parental warmth, $\alpha = .752$ for dual filial piety, and $\alpha = .775$ for the dark triad were obtained from the pilot test with 40 valid responses, showing reliable measurement throughout the initial phase. In the actual study, reliability improved, with $\alpha = .887$ for perceived parental warmth, $\alpha = .862$ for dual filial piety, and $\alpha = .751$ for the dark triad, respectively (Refer to Table 3.1). These findings demonstrate that the survey's questionnaires have sufficient internal consistency and are appropriate for evaluating Malaysian young adults' perceptions of parental warmth, filial piety, and dark triad personality traits.

Table 3.3*Reliability*

Instrument	Cronbach's α (Pilot Test, N=40)	Cronbach's α (Actual Study, N=215)
Perceived Parental Warmth (Adult PARQ-SF)	.876	.887
Dual Filial Piety Scale (DFPS)	.752	.862
Short Dark Triad (SD3)	.775	.751

Chapter 4

Results

Data Cleaning and Missing Data

Data cleaning procedures were performed to ensure the dataset accuracy and integrity before the analysis using IBM SPSS Statistics (Version 29). A total of 330 responses were initially collected using the recruitment platforms mentioned in Chapter 3. Among these, 115 responses (34.8%) were removed because they did not meet the inclusion criteria, did not provide consent, or had incomplete questionnaire data. The remaining responses were further screened to ensure that participants were Malaysians aged 18 years to 35 years old. Following this screening process, 215 responses (65.2%) were selected for the final analysis. No imputation methods were used for missing data.

Descriptive statistics

Demographic Characteristics

All 215 valid participants were Malaysian young adults, with 65.1% female ($n=140$), 33.5% male ($n=72$), and 1.4% preferring not to say (Refer to Table 1 in Appendix C1). The age of respondents ranged from 18 to 33 years old ($M = 21.20$, $SD = 3.05$). For ethnicity, 93.5% of respondents were Chinese, followed by Malay at 3.7 %, and Indian at 2.8 %. (Refer to Table 2 in Appendix C1)

Topic-Specific Characteristics

Table 4.1

Descriptive Statistics for Variables (N=215)

Variable	N	Min	Max	M	SD
Machiavellianism	215	2	5	3.58	0.57
Narcissism	215	2	4	2.81	0.46
Psychopathy	215	1	4	2.68	0.61
Reciprocal Filial Piety	215	2	7	5.02	1.05
Authoritarian Filial Piety	215	1	6	3.29	0.97
Perceived Parental Warmth	215	11	36	27.44	5.52
Age	215	18	33	21.20	3.05

Note. Min = Minimum; Max = Maximum; M = Mean; SD = Standard Deviation

Table 4.1 presents the descriptive statistics for all six variables. The three independent variables were Machiavellianism ($M = 3.58$, $SD = 0.57$), Narcissism ($M = 2.81$, $SD = 0.46$), Psychopathy ($M = 2.68$, $SD = 0.61$). The two dependent variables were reciprocal filial piety ($M = 5.02$, $SD = 1.05$), and authoritarian filial piety ($M = 3.29$, $SD = 0.97$). The moderator variable was perceived parental warmth, with a mean score of 27.44 ($SD = 5.52$).

Assumptions of Normality

Skewness and Kurtosis

The acceptable range for skewness and kurtosis values are within ± 2 , which is within the value of -2 to 2 (George & Mallery, 2010). Table 4.2 below shows the skewness and kurtosis of all study variables. There were no violations of skewness and kurtosis observed for all six variables. The values of skewness and kurtosis for all variables were within ± 2 (Refer to Table 3 in Appendix C1).

Table 4.2*Skewness and Kurtosis of Study Variables*

	Skewness	Kurtosis
1. Machiavellianism	-.48	.84
2. Narcissism	.28	.65
3. Psychopathy	-.08	.11
4. Perceived Parental Warmth	-.50	-.16
5. Reciprocal Filial Piety	-.23	-.50
6. Authoritarian Filial Piety	.55	.20

Kolmogorov-Smirnov Test

According to Field (2018), a sample is considered normally distributed when the Kolmogorov–Smirnov (K–S) test is non-significant ($p > .05$). In this study, the K–S results indicated that all variables violated the assumption of normality. There was violation for Machiavellianism $D(215) = .092, p < .001$; narcissism $D(215) = .068, p = .018$; and psychopathy $D(215) = .088, p < .001$; perceived parental warmth $D(215) = .096, p < .001$; reciprocal filial piety, $D(215) = .072, p = .009$; and authoritarian filial piety $D(215) = .089, p < .001$. The significant value for these variables was $p < .05$, which is lower than the threshold of $p = .05$. This indicates a difference between the sample and population normality. (Refer to Table 4 in Appendix C1) However, the K-S test is known to be highly sensitive in medium and large samples, which can detect non-normality even when deviations are small (Kim, 2013; Ghasemi & Zahediasl, 2012). Therefore, normality should be determined using a combination of test statistics, skewness and kurtosis values, and visual inspection rather than the K-S test alone.

Histogram

There was no violation of normality for all the variables based on the histograms obtained from figure 1 to 6 (Refer to Appendix C2). Each variable's histogram showed a symmetrical distribution with a bell-shaped curve.

Quantile-Quantile (Q-Q) Plot

According to the Q-Q plot obtained from figure 1 to figure 6 in Appendix C3. There was no violation observed for all the variables, Machiavellianism, narcissism, psychopathy, perceived parental warmth, reciprocal filial piety, and authoritarian filial piety. The observed data of all variables were mostly clustered along the diagonal line in each Q-Q plot.

Summary

Overall, no violation was observed in skewness and kurtosis, histograms, and Q-Q plots for any of the variables, including Machiavellianism, narcissism, psychopathy, perceived parental warmth, reciprocal filial piety, and authoritarian filial piety. However, there were violations of normality found in Kolmogorov-Smirnov test for all variables. Hence, the normality assumptions were considered satisfied because each variable met the majority of the normality criteria, fulfilling at least three out of the five indicators. Additionally, visual inspection of scatterplots of standardized residuals against predicted values indicated no major violations of linearity or homoscedasticity.

Correlation Analysis

A Pearson bivariate correlation analysis was conducted to examine the relationships among Machiavellianism, narcissism, psychopathy, perceived parental warmth, RFP, and AFP (Refer to Appendix C4). Machiavellianism showed small but significant positive correlations with RFP, $r(213) = .17, p = .006$, and AFP, $r(213) = .16, p = .008$. This indicated that Machiavellian traits were positively associated with both filial piety dimensions. Psychopathy demonstrated a small negative correlation with RFP, $r(213) = -.14, p = .022$, and a small positive correlation with AFP, $r(213) = .18, p = .003$. In contrast, narcissism did not show significant association with either RFP, $r(213) = .01, p = .433$, or AFP, $r(213) = -.00, p = .489$.

There was conceptual overlap between the two dimensions of filial piety, as they showed a moderate positive correlation, $r(213) = .38, p < .001$.

Thus, the hypothesized negative associations with RFP (H1a and H1c) were not supported. Machiavellianism showed a positive association, psychopathy showed a negative but small association, and narcissism showed no association. The expected positive correlations with AFP (H2a and H2b) were supported for Machiavellianism and psychopathy, whereas H2c was not supported, as narcissism had no significant relationship with AFP.

Multivariate Outliers and Influential Case

In this study, outlier screening was conducted using both univariate and multivariate diagnostics to ensure that no single case exerted an undue influence on the regression results. Casewise diagnostics were evaluated using a standardized residual threshold of ± 3.0 (Field, 2018). For the RFP model, one case (Case 183) exceeded this cut-off (Std. Residual = -3.81), indicating a potential univariate outlier. (Refer to Appendix C5). To determine whether this case

was influential, three multivariate tests were examined: Mahalanobis distance, Cook's distance, and leverage. (Refer to Appendix C6)

Mahalanobis distance assesses the multivariate extremity of a case. According to Barnett and Lewis (1994), values greater than 15 are generally considered potential multivariate outliers in medium-sized samples. Case 183 had a Mahalanobis distance of 2.17, which is less than this threshold, indicating no multivariate deviation. Subsequently, influence diagnostics were then examined. Cook's distance evaluates the extent to which removing a case would change regression coefficients, values greater than 1.00 typically indicate influential cases (Cook & Weisberg, 1982). Case 183 showed a Cook's distance of .001, well below the recommended cut-off. Moreover, leverage values identify cases with unusual predictor combinations. Stevens (2002) stated that a case may be considered influential when its leverage value greater than $\frac{3(k+1)}{n}$. With four predictors in this model, the cut-off was approximately .07. The leverage of case 183 is less than 0.075, indicating no influence.

$$\frac{3(4 + 1)}{200} = 0.075$$

All three diagnostics were within acceptable ranges; Case 183 was considered a non-influential outlier and was retained. According to standard regression guidelines, a case must generally violate two or more influence criteria to be deleted, which did not happen here.

For the AFP regression model, standardized residuals ranged from -2.34 to 2.81 (Refer to Appendix C7), all within the ± 3.0 guideline. No cases were above the threshold. Mahalanobis

distances, Cook's distances, and leverage values for all cases were all within the acceptable range, indicating that no influential cases were present. Therefore, no cases were removed.

Moderation Analysis

Hayes' PROCESS Macro Model One

A moderation analysis was conducted using PROCESS macro version 5.0 (Model 1) for SPSS (Hayes, 2022). The analysis was run six times, once for each combination of Dark Triad trait and filial piety dimension. In each model, one Dark Triad trait was entered as the X variable, reciprocal or authoritarian filial piety as the Y variable, and perceived parental warmth as the W (moderator) variable.

First, an analysis was conducted to examine whether perceived parental warmth moderated the association between Machiavellianism (X) and reciprocal filial piety (Y). The overall model was statistically significant, $F(3, 211) = 25.41, p < .001$, explaining 26.5% of the variance in RFP ($R^2 = .265$). The interaction between Machiavellianism and parental warmth was not significant, $b = .02, SE = 0.02, t(211) = 1.29, p = .199, 95\% CI [-0.01, 0.06]$. This indicates that perceived parental warmth did not moderate the relationship between Machiavellianism and RFP. Thus, H3a was not supported.

Assumption checks showed no multicollinearity concerns (all VIFs < 1.01), and residuals showed acceptable skewness and kurtosis. Effect sizes were small for Machiavellianism ($f^2 \approx .03$) and moderate for parental warmth ($f^2 \approx .31$), with a very small effect for the interaction ($f^2 \approx .01$). (Refer to Figure 1 in Appendix C8)

Second, this analysis was conducted to examine whether perceived parental warmth moderated the association between narcissism (X) and RFP (Y). The overall model was statistically significant, $F(3, 211) = 22.53, p < .001$, explaining 24.3% of the variance in RFP ($R^2 = .243$). The interaction between narcissism and parental warmth was not significant, $b = -0.01, SE = 0.02, t(211) = -0.26, p = .795, 95\% \text{ CI} [-0.05, 0.04]$. This indicates that perceived parental warmth did not moderate the association between narcissism on reciprocal filial piety. Thus, H3c was not supported.

Assumption checks indicated no multicollinearity concerns (all VIFs ≤ 1.05), and residuals showed acceptable skewness and kurtosis. Effect sizes were negligible for narcissism ($f^2 \approx .00$), moderate for parental warmth ($f^2 \approx .32$), and negligible for the interaction ($f^2 \approx .00$). (Refer to Figure 2 in Appendix C8)

Third, this analysis was conducted to examine whether perceived parental warmth moderated the association between psychopathy (X) and RFP (Y). The overall model was statistically significant, $F(3, 211) = 23.80, p < .001$, explaining 25.3% of the variance in reciprocal filial piety ($R^2 = .253$). The interaction between psychopathy and parental warmth was not significant, $b = 0.02, SE = 0.02, t(211) = 1.07, p = .288, 95\% \text{ CI} [-0.02, 0.06]$. This indicates that perceived parental warmth did not moderate the relationship between psychopathy and RFP. Thus, H3b was not supported.

Assumption checks indicated no multicollinearity issues (all VIFs < 1.02), and residuals demonstrated acceptable skewness and kurtosis. Effect sizes were small for psychopathy ($f^2 \approx .01$), moderate for parental warmth ($f^2 \approx .31$), and very small for the interaction ($f^2 \approx .01$). (Refer to Figure 3 in Appendix C8)

Fourth, this analysis examined whether perceived parental warmth moderated the association between Machiavellianism (X) and authoritarian filial piety (Y). The overall model was statistically significant, $F(3, 211) = 4.73, p < .003$, explaining 6.3% of the variance in AFP ($R^2 = .063$). The interaction between Machiavellianism and parental warmth was not significant, $b = 0.02, SE = 0.02, t(211) = 1.20, p = .230, 95\% CI [-0.01, 0.06]$. This indicates that parental warmth did not moderate the association of Machiavellianism on AFP. Thus, H4a was not supported.

Assumption checks indicated no multicollinearity concerns (all VIFs < 1.01), and residuals demonstrated acceptable skewness and kurtosis. Effect sizes for predictors were small ($f^2 = .02 - .03$). (Refer to Figure 4 in Appendix C8)

Fifth, this analysis examined whether perceived parental warmth moderated the association between narcissism (X) and authoritarian filial piety (Y). The overall model was statistically significant, $F(3, 211) = 2.79, p = .041$, explaining 3.8% of the variance in AFP ($R^2 = .038$). The interaction between narcissism and parental warmth was not significant, $b = 0.02, SE = 0.02, t(211) = 0.92, p = .361, 95\% CI [-0.02, 0.07]$, indicating that perceived parental warmth did not moderate the association between narcissism and AFP. Thus, H4c was not supported.

Assumption checks indicated no multicollinearity concerns (all VIFs < 1.05), and residuals demonstrated acceptable skewness and kurtosis. Effect sizes were very small for narcissism ($f^2 \approx .00$), small for parental warmth ($f^2 \approx .04$), and negligible for the interaction ($f^2 \approx .01$). (Refer to Figure 5 in Appendix C8)

Sixth, this analysis examined whether perceived parental warmth moderated the association between psychopathy (X) and authoritarian filial piety (Y). The overall model was statistically significant, $F(3, 211) = 7.21, p < .001$, explaining 9.3% of the variance in AFP ($R^2 = .093$). The interaction between psychopathy and parental warmth was significant, $b = 0.04, SE = 0.02, t(211) = 2.10, p = .037, 95\% CI [0.00, 0.08]$. This indicates that perceived parental warmth moderated the relationship between psychopathy and AFP, such that the positive association was stronger at higher levels of perceived warmth. Therefore, H4b was supported.

Assumption checks showed no multicollinearity concerns (all VIFs < 1.02), and residuals demonstrated acceptable skewness and kurtosis. Effect sizes were small for psychopathy ($f^2 \approx .04$), small for parental warmth ($f^2 \approx .04$), and small but meaningful for the interaction ($f^2 \approx .02$). (Refer to Figure 6 in Appendix C8)

Thus, H3a, H3b, H3c, H4a, and H4c were not supported, whereas H4b were supported.

Chapter 5

Discussion

The present study examined the associations between Dark Triad traits (Machiavellianism, psychopathy, and narcissism), perceived parental warmth, and two forms of filial piety including reciprocal filial piety (RFP) and authoritarian filial piety (AFP) among Malaysian young adults. The discussion below is structured around the four research questions and integrates theoretical explanations with empirical findings.

RQ 1: Do Dark Triad traits negatively predict reciprocal filial piety?

The findings show a differentiated pattern. Psychopathy demonstrated the expected negative correlation with RFP, whereas Machiavellianism showed a positive correlation, and narcissism was not significantly associated with RFP. These findings support the H1b and highlight the distinct psychological mechanisms underlying each Dark Triad trait.

Psychopathy showed a significant negative association with RFP. This aligns with the triarchic model of psychopathy, which emphasises boldness, meanness, and disinhibition (Patrick et al., 2009). The meanness component characterised by callousness, deficient empathy, and shallow interpersonal bonds is the most relevant component, as these traits directly undermine the warmth, gratitude, and mutual emotional responsiveness central to RFP. Research consistently shows that meanness and callous–unemotional traits are linked with reduced affective empathy and lower prosocial tendencies, limiting individuals' capacity to endorse reciprocity-based filial values (Campos et al., 2023; Waller et al., 2020).

Additionally, psychopathy is associated with poorer parental relationships, including lower perceived parental warmth, greater hostility, and weaker maternal or paternal bonding

(Backman et al., 2021; Gao et al., 2010). Attachment studies further show that psychopathic traits predict dismissive and avoidant attachment patterns (Alzeer et al., 2019; Christian et al., 2017). As RFP relies on emotional closeness and gratitude, these relational and attachment deficits naturally contribute to lower endorsement of RFP among individuals high in psychopathy.

Moreover, Machiavellianism showed a significant positive correlation with RFP. This emphasize that individuals high in Machiavellianism reported higher levels of affectionate, gratitude-based filial attitudes. This pattern appears contradictory given the manipulative and self-serving nature of Machiavellianism, but current empirical data provides a logical explanation. Research indicates that Machiavellianism is not uniformly antisocial. Machiavellian individuals strategically adjust their interpersonal behaviour to match social norms and relational expectations (Fan et al., 2023). When such behaviour is socially valued, people can behave in a cooperative, supportive, and relational manner even in the absence of true altruistic intentions. In Malaysian cultural contexts where filial reciprocity is morally emphasised and socially reinforced, Machiavellian individuals may adopt reciprocal filial behaviours to secure approval, avoid sanctions, or obtain relational benefits.

Furthermore, studies demonstrated that individuals high in Machiavellianism can maintain functional family and romantic relationships when these relationships provide advantages (Ináncsi et al., 2015; Pelz, 2025). This aligns with RFP, which centres on gratitude, mutual care, and ongoing emotional exchange. Parents often represent stable, high-value relational partners in collectivistic societies by providing support, guidance, and resources (Cheung & Cheah, 2025). Therefore, endorsement of RFP among Machiavellian individuals may reflect a strategic investment in preserving beneficial parent–child relationships.

Additionally, narcissism was not significantly associated with RFP. The difference between grandiose and vulnerable narcissism provides an explanation. Grandiose narcissism, which is more common in non-clinical samples, reflects social boldness, charm, and extraversion. These qualities may facilitate superficial warmth or lead to instrumental family interactions that can later create conflict and dissatisfaction (Jauk et al., 2017; Lazarević, 2025). In contrast, vulnerable narcissism is marked by hypersensitivity, insecurity, and fear of rejection, traits more closely linked to emotional deficiencies and vulnerability in relationships. The SD3 primarily captures the confident, socially expressive form of grandiose narcissism, which does not strongly reflect the emotional vulnerabilities associated with the vulnerable subtype (Maples et al., 2014).

RQ 2: Do Dark Triad traits positively predict authoritarian filial piety?

The results show that Machiavellianism and psychopathy were positively associated with AFP, whereas narcissism was not significant to AFP. This pattern supports the idea that AFP based on obedience, hierarchy, and rule-following is fundamentally distinct from RFP and may appeal to individuals with certain dark triad traits.

Research has shown that Machiavellianism is associated with instrumental relational strategies and manipulation within structured social systems, indicating that individuals high in Machiavellianism may support authoritarian structures when such structures bring benefit (Jonason & Krause, 2013). Additionally, study also shown that Machiavellian leaders do not always behave harshly or abusively, and their behaviour depends on how they interpret social situations, such as whether they feel threatened by others or dependent on them (Li et al., 2025). This shows that Machiavellianism is associated with obedience to social standards when these standards can be used for individual gain. Moreover, another study further found Machiavellian

traits predict moral disengagement through authoritarian filial beliefs, indicating that AFP may function as a cognitive mechanism that facilitates strategic behaviour (Qiao et al., 2021). Taken together, these findings support the idea that AFP may appeal to Machiavellian individuals because authoritarian norms produce predictable power relations that individuals may take advantage.

Psychopathy also showed a positive correlation with AFP. Prior research has shown that psychopathic traits strongly predict authoritarian and antisocial attitudes even in non-clinical samples (Prichard & Turner, 2023). This suggests that psychopathic individuals may support authoritarian norms because such norms emphasize power, control, and obedience values that align with their interpersonal style. Within the filial piety framework, AFP reinforces rigid hierarchical roles in which obedience is expected, and parental authority is rarely questioned. Therefore, psychopathic individuals who often prioritize dominance and control may perceive authoritarian family norms as reflective of their preferred social order. Moss and O'Connor (2020) found that psychopathy was one of the strongest Dark Triad predictors of authoritarian political attitudes, indicating openness to coercive and structured systems.

The non-significant correlation between narcissism and AFP can be explained through the Narcissistic Admiration and Rivalry Concept (NARC) which distinguishes narcissistic admiration from narcissistic rivalry (Back et al., 2013). Narcissistic admiration is characterized by assertiveness, charm, and a desire for social approval, leading individuals to maintain relationships that enhance their self-esteem. However, these tendencies do not extend to accepting subordinate or obedience-based roles. AFP entails deference to parental authority and reduced autonomy, creating limited opportunities for the self-enhancement that admiration-oriented narcissists seek. Narcissistic rivalry, marked by hostility, defensiveness, and the need to

maintain dominance, conflicts even more strongly with hierarchical filial expectations. Family structures that position parents in a superior role may elicit ego-threat and resistance among rivalry-oriented individuals. These distinctions suggest that neither admiration nor rivalry aligns with obedience-based filial obligations, contributing to the absence of a significant association between narcissism and AFP in the present study.

RQ 3: Does perceived parental warmth moderate the relationship between Dark Triad traits and reciprocal filial piety (RFP)?

Perceived parental warmth did not moderate the relationships between any of the Dark Triad traits (Machiavellianism, psychopathy, narcissism) and reciprocal filial piety. Although Machiavellianism showed a small positive correlation with RFP and psychopathy showed a small negative correlation, the interaction terms with parental warmth were all non-significant. Narcissism was not related to RFP, and parental warmth did not change this pattern. In other words, regardless of whether young adults perceived their parents as warmer or less warm, the links between Dark Triad traits and RFP remained essentially the same.

The non-significant moderation consistent with previous research suggesting that these traits, especially Machiavellianism and psychopathy, are largely personality-driven and only weakly shaped by positive parenting behaviors (Jones & Paulhus, 2014; Jonason & Webster, 2010; Muris et al., 2017). Studies on young adults also show that perceived parental acceptance and protection tend to have only small negative correlations with Machiavellian orientation, meaning that warmth alone is not strong enough to offset the interpersonal coldness of the trait (Raju & Prusty, 2023). For psychopathy, longitudinal research shows that parental warmth predicts a decrease in psychopathic traits mostly in high-risk or offending youth, but the effects

are much weaker in general populations where psychopathic traits tend to remain relatively stable (Backman et al., 2021). This explains why warmth did not moderate psychopathy in the present non-clinical sample.

For narcissism, previous study indicates that narcissistic tendencies are more strongly linked to parental overvaluation (parents treating the child as exceptionally special) than to warmth itself (Brummelman et al., 2015), and parental emotional warmth is associated with lower levels of Machiavellianism, psychopathy, and narcissism (Liu et al., 2019).

Additionally, RFP is often described as a culturally transmitted norm centered on gratitude, mutual support, and family obligation in Confucian-influenced societies (Yeh & Bedford, 2003). These expectations are widely shared and learned through culture and social norms rather than parenting style alone. As a result, most young adults may internalize reciprocal filial duties regardless of their personality traits or the level of warmth they experienced at home. Thus, these findings suggest that while perceived parental warmth itself is strongly related to higher RFP, it does not significantly change how Machiavellianism, psychopathy, or narcissism relate to reciprocal filial piety in this study.

RQ 4: Does perceived parental warmth moderate the relationship between Dark Triad traits and authoritarian filial piety (AFP)?

For authoritarian filial piety, a different pattern emerged. Perceived parental warmth did not moderate the relationships between Machiavellianism or narcissism and AFP, but it did moderate the relationship between psychopathy and AFP. Machiavellianism and psychopathy both showed small positive correlations with AFP, whereas narcissism was unrelated to AFP. In

the moderation models, the interaction between (Machiavellianism and warmth), (narcissism and warmth) interaction terms were non-significant, but the (psychopathy and warmth) interaction was significant. This means that perceived parental warmth strengthened the positive association between psychopathy and AFP.

The non-significant interactions for Machiavellianism and narcissism are consistent with the idea that AFP emphasize obedience, duty, and respect for authority which is mainly shaped by cultural norms and structural expectations rather than emotional closeness. Previous research shows that authoritarian family values are often maintained through behavioural control (clear rules, supervision) rather than warmth (Azizy & Febriani, 2024), and Malaysian parenting studies note that collectivistic norms and familism continue to reinforce hierarchy and obligation (Masiran, 2022; Yeh & Bedford, 2003). Machiavellian individuals may comply with authoritarian filial obligations for strategic reasons (e.g., to maintain harmony or secure future benefits), regardless of how warm their parents are (Jonason & Webster, 2010; Muris et al., 2017). For narcissism, the SD3 mainly captures grandiose narcissism, which is relatively stable and less influenced by parenting warmth (Miller et al., 2011). Grandiose narcissists prioritize autonomy and self-enhancement. Therefore, they may not consistently practice obedience-based duties, even when they perceive their parents as warm.

In contrast, the significant interaction for psychopathy suggests that parental warmth can intensify the link between psychopathic traits and authoritarian filial attitudes. Although psychopathic traits are associated with emotional coldness and low empathy. Research on callous-unemotional traits indicates that warm, structured parenting can reduce overt antisocial behavior by redirecting these traits into more socially acceptable forms of compliance (Hyde et

al., 2013). In cultures that prioritize hierarchy and obedience, warm, structured parenting may provide a secure environment in which young adults high in psychopathy present themselves as obedient to authoritarian norms. Thus, AFP becomes a socially approved way to “follow the rules” within the family, even if the underlying motivation is not empathy but strategic or instrumental compliance.

Therefore, the findings for RQ4 indicate that perceived parental warmth does not broadly buffer or weaken Dark Triad effects on AFP. Instead, perceived parental warmth strengthened the link between psychopathy and AFP, while the associations of Machiavellianism and narcissism with AFP showed no significant alteration.

Implication of the study

Theoretical implications

The findings contribute to a more refined understanding of how Dark Triad traits operate within collectivistic family systems. The positive correlations between Machiavellianism and both RFP and AFP indicate that individuals high in Machiavellianism can still endorse prosocial or norm-consistent behaviours when these behaviours provide interpersonal or social advantages. This aligns with Jonason and Webster’s (2010) conceptualization of Machiavellianism as strategic and socially adaptive, where individuals selectively comply with expectations for personal gain. Similarly, Jonason and Krause (2013) found that Machiavellianism is often associated with tactical cooperation in environments where conformity is socially rewarded. In cultures where filial norms are deeply institutionalized, such as Malaysia and other Confucian-heritage societies, endorsing filial piety may represent a culturally effective strategy for maintaining relational benefits within the family.

Psychopathy showed a dual pattern, lower reciprocal but higher AFP suggesting that psychopathic tendencies may not eliminate compliance with hierarchical norms. Research indicates that youths with elevated callous–unemotional traits are especially likely to engage in emotionally cool, proactive (instrumental) aggression to achieve desired outcomes (Hyde et al., 2013). The stronger psychopathy and AFP association under higher parental warmth further suggests that warm yet structured parenting environments may inadvertently reinforce duty-based filial attitudes among these individuals. This increase the complexity to Parental Acceptance-Rejection Theory, suggesting that parental warmth alone may not be a universal buffer. Its function may depend on cultural expectations and the child's personality profile (Rohner, 2005).

The non-significant associations between narcissism and both filial piety dimensions suggest that grandiose narcissism may be oriented primarily toward self-enhancement rather than family obligation. Back et al. (2013) emphasized that admiration-based narcissism fosters assertive self-promotion, whereas rivalry narcissism fosters dominance and hostility neither of which necessarily align with filial responsibility. This raises the possibility that filial piety may be relatively peripheral to narcissistic self-focus, especially in emerging adulthood when autonomy and self-enhancement are salient developmental goals.

These findings also complement work by Yeh and Bedford (2003) and Bedford and Yeh (2019), who argue that filial piety is driven by two motivational systems reciprocity (emotion-based) and authoritarianism (duty-based). The present results demonstrate that these systems interact differently with personality dispositions, supporting the need for integrating cultural

value models with personality frameworks to understand filial behaviour in modern Asian contexts.

Practical implications

The results have important implications for family interventions, youth counselling, and elder-care policy. First, the fact that Machiavellianism and psychopathy predicted higher AFP means that practitioners should not assume young adults with dark traits reject family obligations. Instead, their filial compliance may be strategic, or obligation driven. Therefore, family counsellors can focus on helping families differentiate between reciprocal, emotionally grounded filial piety and authoritarian, pressure-based filial duty. Previous studies have shown that AFP is associated with greater psychological distress, whereas RFP is linked to better mental health and well-being (Liu et al., 2022; Yang et al., 2024).

For parenting programs, the findings highlight the importance of fostering warmth and autonomy support. In Malaysia, Tan et al. (2018) found that paternal and maternal autonomy support were positively associated with reciprocal filial piety and adolescents' life satisfaction. Similarly, a longitudinal study in China showed that perceived authoritative parenting characterised by warmth and reasoning predicted increases in reciprocal filial piety over time (Lin & Wang, 2022). However, warmth combined with strong expectations for obedience can reinforce AFP, especially among youth with psychopathic tendencies. Encouraging open communication, perspective-taking, and shared decision-making may thus reduce obligation-based compliance and promote internalized, mutually respectful filial values.

At the policy level, Malaysia's ageing population has intensified discussions about legal filial responsibility and adult children's duty to support elderly parents. However, reliance solely on

duty-based policies may inadvertently strengthen AFP without fostering true emotional commitment. Intergenerational wellbeing is best supported not by legal pressure but by community resources, parent-child communication programs, caregiver support schemes, and social welfare provisions. The present findings reinforce the need for policies that promote reciprocal, not purely obligatory, forms of filial care.

Limitations of the study

Several limitations should be acknowledged. First, the cross-sectional design restricts causal inference. Because all variables were measured at a single time point, temporal ordering among parental warmth, Dark Triad traits, and filial piety cannot be established, and the observed associations cannot be interpreted as causal (Mann, 2003; Savitz & Wellenius, 2023). Second, the sample consisted primarily of Malaysian young adults with a likely over-representation of Chinese respondents, limiting generalizability across ethnic, socioeconomic, and cultural groups. Previous research has documented notable cultural variation in filial expectations among Malays, Chinese, and Indians in Malaysia, indicating that filial norms differ across ethnic communities (Yusof et al., 2022).

Third, the study relied solely on self-report measures, increasing risk of common method variance. Podsakoff et al. (2003) stated that single-source, same-time survey designs can inflate observed associations. Additionally, the SD3 does not differentiate between important subdimensions such as rivalry narcissism or primary versus secondary psychopathy. The absence of these distinctions restricts interpretation because different facets of dark traits, such as narcissistic admiration versus narcissistic rivalry, show distinct patterns of association with interpersonal and relationship outcomes (Back et al., 2013; Seidman et al., 2020).

Finally, the sample size was below the priori target for moderation analyses, reducing power to detect small interaction effects. Some non-significant moderation findings may therefore reflect insufficient statistical power rather than true absence of moderation.

Recommendations for future research

Future studies should use longitudinal or multi-wave designs to clarify the stages of developmental of filial beliefs and dark personality traits. This is because longitudinal designs, which involve repeated assessments of the same individuals, offer clearer evidence of developmental change and allow researchers to establish temporal ordering, unlike cross-sectional snapshots (Singer & Willett, 2003). Researchers should also recruit more diverse samples across Malaysian ethnicities, cultures, and SES backgrounds to improve external validity.

To reduce common method bias, future studies should incorporate multi-informant and multi-method approaches (Podsakoff et al., 2003), including parent reports, behavioral measures of filial behavior, and peer-report or clinician-rated personality assessments. Additionally, using expanded personality measures such as the Narcissistic Admiration and Rivalry Questionnaire or triarchic psychopathy assessments would capture more nuanced personality-filial relationships (Back et al., 2013; Patrick et al., 2009)

Finally, future research should explore additional parenting constructs such as psychological control, autonomy support, guan parenting, and parental expectations, as previous study shows that guan parenting is associated with stronger filial piety and better adolescent adjustment through its influence on filial beliefs (Nainee et al., 2021). Researchers should also

measure actual filial behaviors (e.g., caregiving, financial support), as filial attitudes do not always predict real-life outcomes (Bedford & Yeh, 2019).

Conclusions

This study examined how Dark Triad traits, filial piety, and perceived parental warmth relate among Malaysian young adults. Psychopathy negatively predicted reciprocal filial piety but positively predicted authoritarian filial piety, suggesting that emotionally detached individuals may still comply with duty-based expectations. Machiavellianism showed small positive associations with both filial dimensions, indicating strategic adherence to socially valued norms, whereas narcissism showed no meaningful links to filial beliefs. Importantly, moderation analyses showed that parental warmth did not alter most associations between Dark Triad traits and filial piety, indicating that warmth alone is insufficient to offset these underlying personality tendencies. Perceived parental warmth significantly increased the association between psychopathy and authoritarian filial piety, indicating that warmth may support duty-based compliance in those with high psychopathic tendencies. Therefore, these findings highlight that filial piety is shaped by both individual personality and parenting experiences, with different dark traits influencing filial beliefs in distinct ways. Future research should adopt longitudinal and multi-method designs to better understand how personality and family dynamics jointly shape filial values in collectivistic contexts.

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Appendices

Appendix A1: Ethical Approval Letter



UNIVERSITI TUNKU ABDUL RAHMAN DU012(A)
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Re: U/SERC/78-635/2025

28 October 2025

Dr Lee Wan Ying
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Lee,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research project from Bachelor of Social Science (Honours) Psychology programme enrolled in course UAPZ3023. We are pleased to inform you that the application has been approved under Expedited Review.

The details of the research projects are as follows:

No	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	The Moderating Role of Perceived Parental Warmth in the Relationship Between Dark Triad Traits and Filial Piety Among Young Adults in Malaysia	1. Leong Ying Shuang 2. Tang Shi Shi	Dr Au Zher Wen	28 October 2025 – 27 October 2026

The conduct of this research is subject to the following:

- (1) The participants' informed consent be obtained prior to the commencement of the research;
- (2) Confidentiality of participants' personal data must be maintained; and
- (3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.
- (4) Written consent be obtained from the institution(s)/company(ies) in which the physical or/and online survey will be carried out, prior to the commencement of the research.

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 Fax: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my



Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,



Professor Dr Zuraidah Abd Manaf
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Arts and Social Science
 Director, Institute of Postgraduate Studies and Research

Appendix A2: Inform consent and survey

THE MODERATING ROLE OF PERCEIVED PARENTAL WARMTH

Start of Block: Introduction**Introduction**

Department of Psychology and Counseling Faculty of Arts and Social Science Universiti Tunku Abdul Rahman Introduction We would like to conduct a research study to test "*The Moderating Role of Perceived Parental Warmth in the Relationship between Dark Triad Traits and Filial Piety among Young Adults in Malaysia*". This is for the purpose of the course assignment for UAPZ3023 FINAL YEAR PROJECT II. **Procedures and Confidentiality**

The following questionnaire will require approximately 20 minutes to complete. All information provided will remain as **private and confidential**. The information given will only be reported as group data with no identifying information and only use for academic purpose.

Participation All the information gathered will remain anonymous and confidential. Your information will not be disclosed to any unauthorized person and would be accessible only by group members. Participant in this study is voluntary, you are free to withdraw with consent and discontinue participation in anytime without prejudice. Your responses will be coded numerically in the research assignment for the research interpretation. Your cooperation would be greatly appreciated. If you choose to participate in this project, please answer all the questions as honestly as possible and return the completed questionnaire promptly.

End of Block: Introduction

Start of Block: Personal Data Protection Statement**PDPS****PERSONAL DATA PROTECTION NOTICE**

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information. 1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes: a) Name b) Race c) Religion d) Personal Information and Associated Research Data 2. The purposes for which your personal data may be used are inclusive but not limited to: a) For assessment of any application to UTAR b) For processing any benefits and services c) For communication purposes d) For advertorial and news e) For general administration and record purposes f) For enhancing the value of education g) For educational and related purposes consequential to UTAR h) For replying any responds to

complaints and enquiries i) For the purpose of our corporate governance j) For the purposes of conducting research/ collaboration 3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws. 4. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required. 5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent: 6. By submitting or providing your personal data to UTAR, you had consented and agreed for your personal data to be used in accordance to the terms and conditions in the Notice and our relevant policy. 7. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose. 8. You may access and update your personal data by writing to us at:

lys2322002@lutar.my (Leong Ying Shuang)
tangshishi0818@lutar.my (Tang Shi Shi)

Acknowledgment of Notice

- I have been notified and that I hereby understood, consented and agreed per UTAR above notice. (1)
- I disagree, my personal data will not be processed. (2)

Skip To: End of Survey If QID7 = I disagree, my personal data will not be processed.

End of Block: Personal Data Protection Statement

Start of Block: Demographic

Q1 Are you a Malaysian citizen?

- Yes (1)
- No (2)

Skip To: End of Survey If Q1 = No

Q2 Gender

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Prefer not to say (4)
-

Q3 Age

Q4 Ethnicity

- Chinese (1)
- Indian (2)
- Malay (3)
- Others. Specify (4) _____

End of Block: Demographic

Start of Block: PARQ/S

Appendix A3: Turnitin Report



Page 2 of 49 - Integrity Overview

Submission ID trn:oid::3618:123989028

15% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text

Match Groups

-  **107 Not Cited or Quoted 12%**
Matches with neither in-text citation nor quotation marks
-  **19 Missing Quotations 2%**
Matches that are still very similar to source material
-  **0 Missing Citation 0%**
Matches that have quotation marks, but no in-text citation
-  **0 Cited and Quoted 0%**
Matches with in-text citation present, but no quotation marks

Top Sources

- 8%  Internet sources
- 7%  Publications
- 13%  Submitted works (Student Papers)

Appendix A4: Poster



CALL FOR RESPONDENTS!

UTAR
UNIVERSITI TUNKU ABDUL RAHMAN

Survey on Personality & Family Relationships Among Malaysian Young Adults

We are conducting a study to understand how personality traits and parental warmth relate to filial attitudes among Malaysian young adults.

Who can participate:

-  Malaysian Citizen
- Age 18–35

Estimated time: 15 -20 minutes

Responses are anonymous

Scan to Participate:



https://utarpsy.au1.qualtrics.com/jfe/form/SV_cMeAG47JBz10jhY

Your participation is appreciated

Appendix B1: Calculation of Total Sample Size (G*Power)

Machiavellianism, Reciprocal Filial Piety and Perceived Parental Warmth

$$R_{full}^2 \text{ (Model } R^2) = 0.1151$$

$$\Delta R^2 \text{ (R}^2\text{-change due to interaction)} = 0.0285$$

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0285}{1 - 0.1151}$$

$$= 0.03$$

Model: 1
 Y: RECIPI
 X: C_MACHI
 W: C_WARMTH

Sample
 Size: 40

OUTCOME VARIABLE:
 RECIPI

Model Summary

	R	R-sq	Adj R-sq	F	p	SEest
	.3393	.1151	.0414	1.5613	.2156	.7159
		SS	df	MS		
Regress		2.4005	3.0000	.8002		
Residual		18.4495	36.0000	.5125		
Total		20.8500	39.0000	.5346		

Model

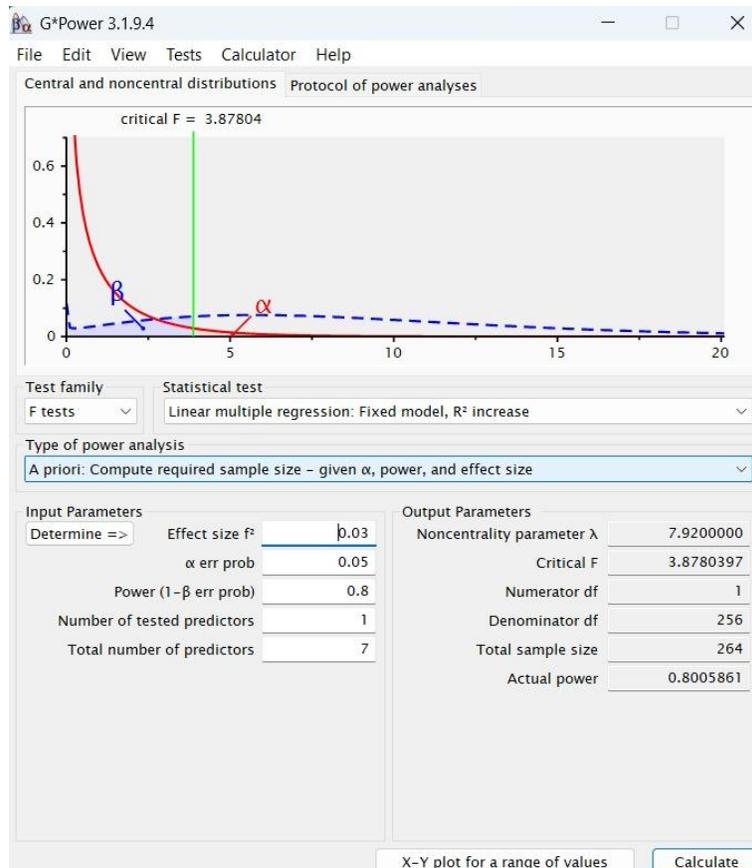
	coeff	se	t	p	LLCI	ULCI
constant	4.4861	.1137	39.4694	.0000	4.2556	4.7166
C_MACHI	.2315	.3185	.7266	.4721	-.4146	.8775
C_WARMTH	.0218	.0225	-.9666	.3402	-.0239	.0674
Int_1	-.0659	.0611	-1.0774	.2885	-.1899	.0581

Product terms key:

Int_1 : C_MACHI x C_WARMTH

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0285	1.1608	1.0000	36.0000	.2885



Narcissism, Reciprocal Filial Piety and Perceived Parental Warmth

$$R_{full}^2 \text{ (Model } R^2) = 0.1151$$

$$\Delta R^2 \text{ (R}^2\text{-change due to interaction)} = 0.0285$$

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0285}{1 - 0.1151} = 0.03$$

Model: 1
 Y: RECIP
 X: C_NARC
 W: C_WARMTH

Sample
 Size: 40

OUTCOME VARIABLE:
 RECIP

Model Summary

	R	R-sq	Adj R-sq	F	p	SEest
	.3393	.1151	.0414	1.5613	.2156	.7159
	SS	df	MS			
Regress	2.4005	3.0000	.8002			
Residual	18.4495	36.0000	.5125			
Total	20.8500	39.0000	.5346			

Model

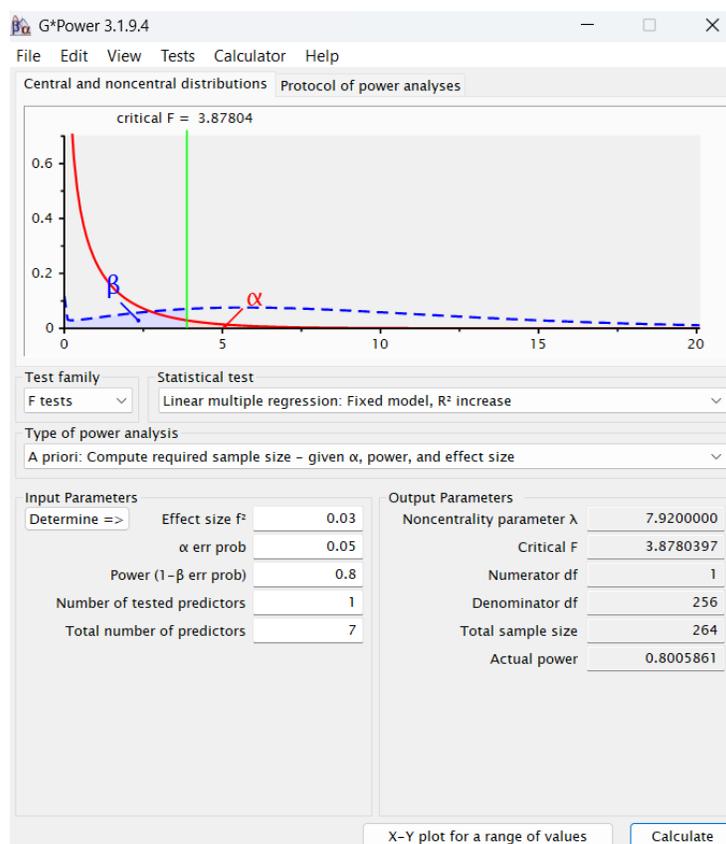
	coeff	se	t	p	LLCI	ULCI
constant	4.4861	.1137	39.4694	.0000	4.2556	4.7166
C_NARC	.2315	.3185	.7266	.4721	-.4146	.8775
C_WARMTH	.0218	.0225	.9666	.3402	-.0239	.0674
Int_1	-.0659	.0611	-1.0774	.2885	-.1899	.0581

Product terms key:

Int_1 : C_NARC x C_WARMTH

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0285	1.1608	1.0000	36.0000	.2885



Psychopathy, Reciprocal Filial Piety and Perceived Parental Warmth

R_{full}^2 (Model R^2) = 0.1680

ΔR^2 (R^2 -change due to interaction) = 0.0341

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0341}{1 - 0.1680} = 0.04$$

Model: 1
 Y: RECIP
 X: C_PSYC
 W: C_WARMTH

Sample
 Size: 40

OUTCOME VARIABLE:
 RECIP

Model Summary

	R	R-sq	Adj R-sq	F	p	SEest
	.4099	.1680	.0987	2.4234	.0817	.6942
		SS	df	MS		
Regress		3.5032	3.0000	1.1677		
Residual		17.3468	36.0000	.4819		
Total		20.8500	39.0000	.5346		

Model

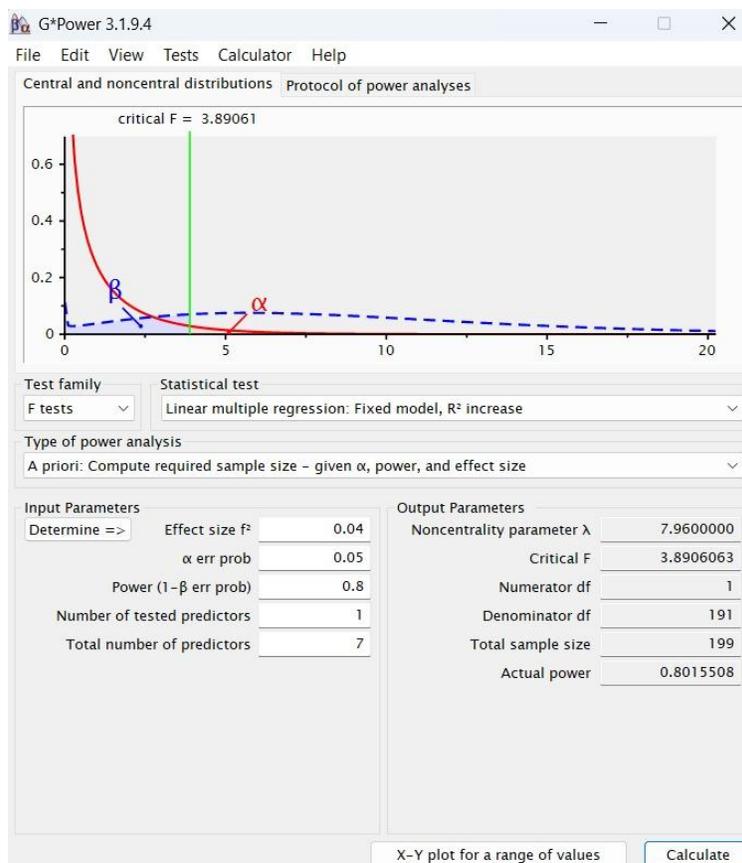
	coeff	se	t	p	LLCI	ULCI
constant	4.4575	.1107	40.2665	.0000	4.2330	4.6820
C_PSYC	.3321	.1983	1.6742	.1028	-.0702	.7343
C_WARMTH	.0430	.0205	2.0951	.0433	.0014	.0846
Int_1	-.0430	.0354	-1.2151	.2322	-.1148	.0288

Product terms key:

Int_1 : C_PSYC x C_WARMTH

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0341	1.4766	1.0000	36.0000	.2322



Machiavellianism, Authoritarian Filial Piety and Perceived Parental Warmth

$$R_{full}^2 \text{ (Model } R^2) = 0.1322$$

$$\Delta R^2 \text{ (R}^2\text{-change due to interaction)} = 0.0228$$

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0228}{1 - 0.1322} = 0.03$$

```

Model: 1
Y: AUTHOR
X: C_MACHI
W: C_WARMTH

Sample
Size: 40

OUTCOME VARIABLE:
AUTHOR

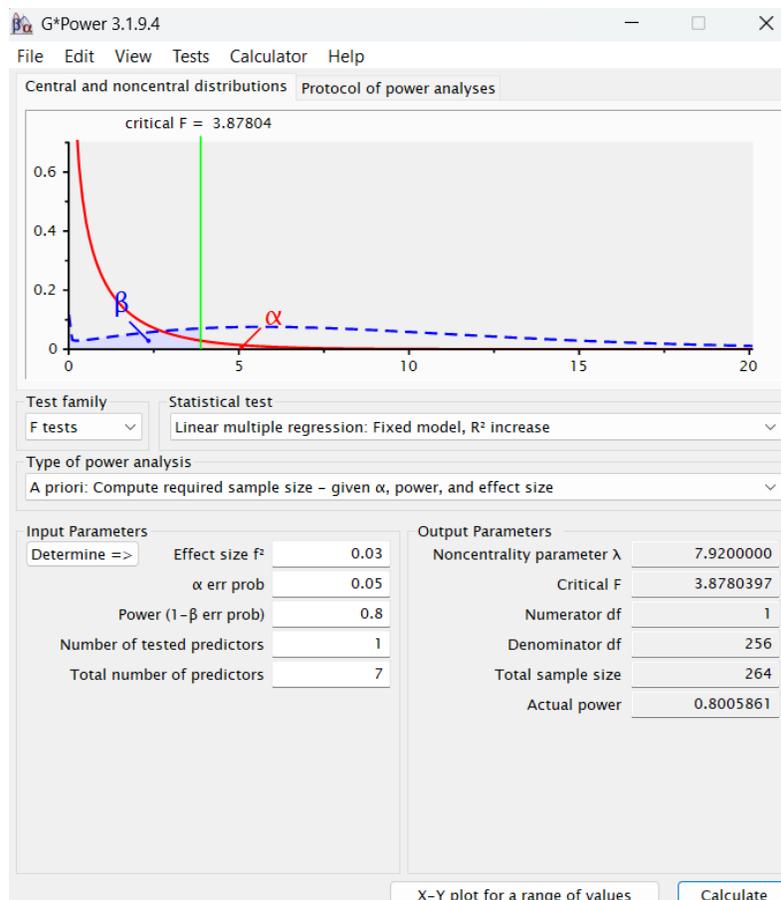
Model Summary
      R      R-sq   Adj R-sq      F      p      SEest
      .3636   .1322   .0599     1.8284  .1594   .7418

      SS      df      MS
Regress  3.0183  3.0000  1.0061
Residual 19.8094 36.0000  .5503
Total    22.8277 39.0000  .5853

Model
      coeff      se      t      p      LLCI      ULCI
constant  2.9927   .1178  25.4104  .0000   2.7539   3.2316
C_MACHI   .5808   .3301   1.7598  .0869  -.0886   1.2502
C_WARMTH  .0361   .0233   1.5479  .1304  -.0112   .0834
Int_1     .0616   .0634   .9729  .3371  -.0669   .1901

Product terms key:
Int_1 :      C_MACHI x      C_WARMTH

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W     .0228     .9466     1.0000     36.0000     .3371
    
```



Narcissism, Authoritarian Filial Piety and Perceived Parental Warmth

$$R_{full}^2 \text{ (Model } R^2) = 0.1322$$

$$\Delta R^2 \text{ (R}^2\text{-change due to interaction)} = 0.0228$$

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0228}{1 - 0.1322} = 0.03$$

```

Model: 1
Y: AUTHOR
X: C_NARC
W: C_WARMTH

Sample
Size: 40

OUTCOME VARIABLE:
AUTHOR

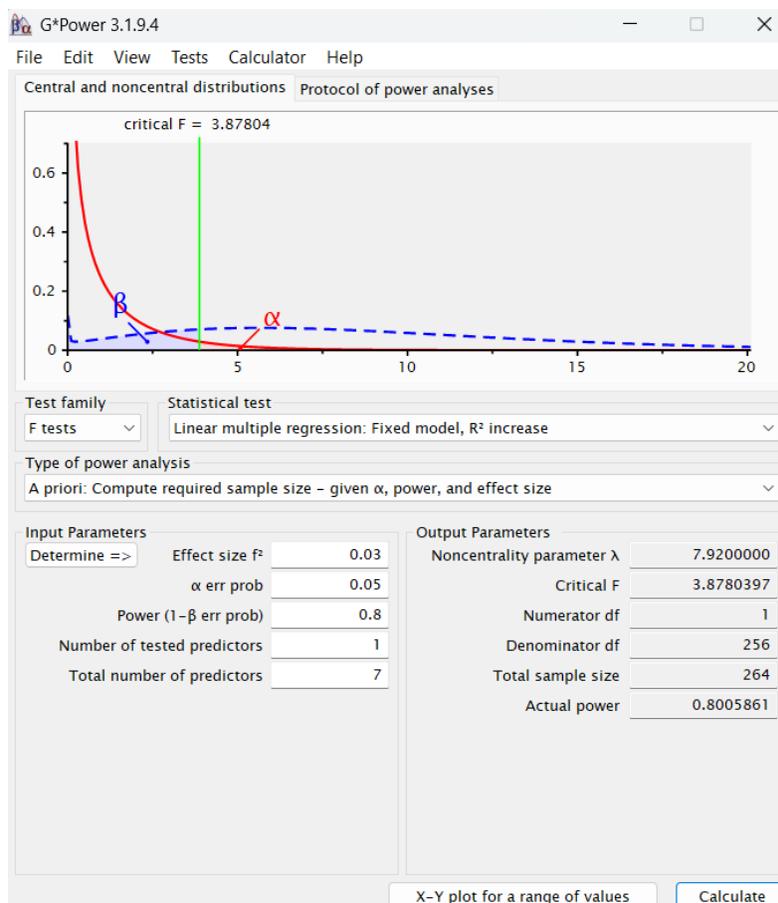
Model Summary
R          R-sq    Adj R-sq    F          p          SEest
.3636     .1322     .0599      1.8284     .1594     .7418

Regress    SS          df          MS
3.0183     3.0000     1.0061
Residual  19.8094    36.0000    .5503
Total     22.8277    39.0000    .5853

Model
coeff      se          t          p          LLCI      ULCI
constant  2.9927     .1178     25.4104    .0000     2.7539   3.2316
C_NARC    .5808     .3301     1.7598     .0869    -.0886   1.2502
C_WARMTH  .0361     .0233     1.5479     .1304    -.0112   .0834
Int_1     .0616     .0634     .9729     .3371    -.0669   .1901

Product terms key:
Int_1      :      C_NARC  x      C_WARMTH

Test(s) of highest order unconditional interaction(s):
R2-chng    F          df1         df2         p
X*W        .0228     .9466     1.0000     36.0000    .3371
    
```



Psychopathy, Authoritarian Filial Piety and Perceived Parental Warmth

$$R_{full}^2 \text{ (Model } R^2) = 0.1014$$

$$\Delta R^2 \text{ (R}^2\text{-change due to interaction)} = 0.0370$$

$$f^2 \frac{\Delta R^2}{1 - R_{full}^2} = \frac{0.0370}{1 - 0.1014} = 0.04$$

Model: 1
 Y: AUTHOR
 X: C_PSYC
 W: C_WARMTH

Sample
 Size: 40

OUTCOME VARIABLE:
 AUTHOR

Model Summary

	R	R-sq	Adj R-sq	F	p	SEest
	.3185	.1014	.0265	1.3545	.2722	.7548

	SS	df	MS
Regress	2.3153	3.0000	.7718
Residual	20.5124	36.0000	.5698
Total	22.8277	39.0000	.5853

Model

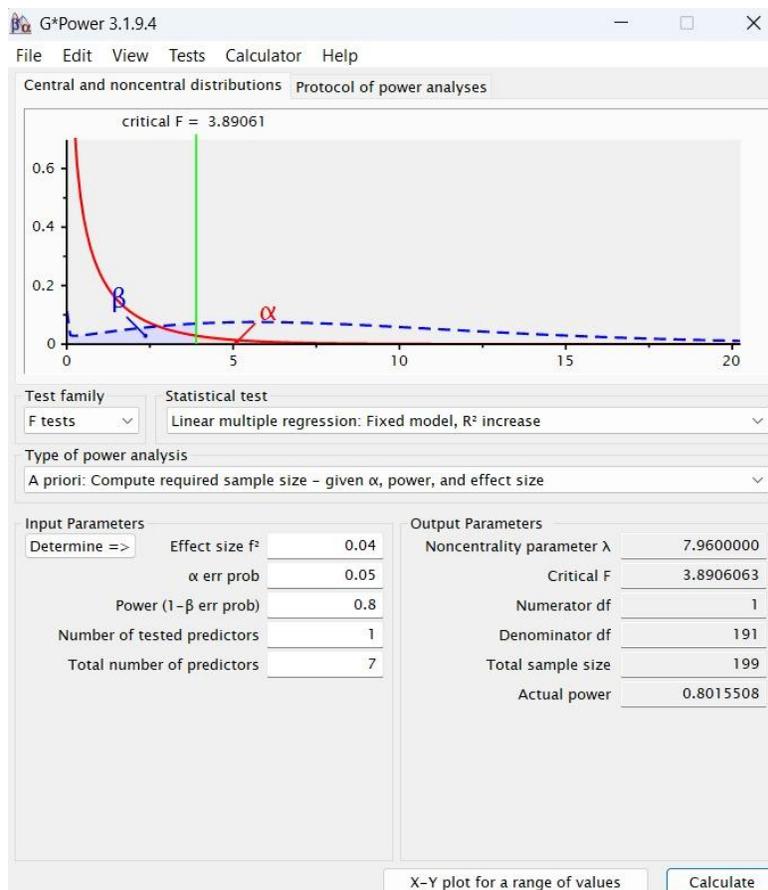
	coeff	se	t	p	LLCI	ULCI
constant	2.9840	.1204	24.7891	.0000	2.7399	3.2282
C_PSYC	.1656	.2157	.7678	.4476	-.2718	.6030
C_WARMTH	.0378	.0223	1.6954	.0986	-.0074	.0831
Int_1	-.0469	.0385	-1.2171	.2315	-.1249	.0312

Product terms key:

Int_1 : C_PSYC x C_WARMTH

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0370	1.4814	1.0000	36.0000	.2315



Appendix C1: Statistics Results

Table 1: Gender

		Gender			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Male	72	33.5	33.5	33.5
	Female	140	65.1	65.1	98.6
	Prefer not to say	3	1.4	1.4	100.0
	Total	215	100.0	100.0	

Table 2: Ethnicity

		Ethnicity - Selected Choice			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Chinese	201	93.5	93.5	93.5
	Indian	6	2.8	2.8	96.3
	Malay	8	3.7	3.7	100.0
	Total	215	100.0	100.0	

Table 3: Descriptive Statistics

		Descriptives		
		Statistic	Std. Error	
MACHI	Mean	3.58	.039	
	95% Confidence Interval for Mean	Lower Bound	3.50	
		Upper Bound	3.66	
	5% Trimmed Mean	3.60		
	Median	3.67		
	Variance	.321		
	Std. Deviation	.567		
	Minimum	2		
	Maximum	5		
	Range	3		
	Interquartile Range	1		
	Skewness	-.480	.166	
Kurtosis	.841	.330		
NARC	Mean	2.81	.032	
	95% Confidence Interval for Mean	Lower Bound	2.75	
		Upper Bound	2.87	
	5% Trimmed Mean	2.80		
	Median	2.78		
	Variance	.215		
	Std. Deviation	.463		
	Minimum	2		
	Maximum	4		
	Range	3		
	Interquartile Range	1		
	Skewness	.283	.166	
Kurtosis	.646	.330		

PSYC	Mean		2.68	.042
	95% Confidence Interval for Mean	Lower Bound	2.60	
		Upper Bound	2.76	
	5% Trimmed Mean		2.68	
	Median		2.67	
	Variance		.371	
	Std. Deviation		.609	
	Minimum		1	
	Maximum		4	
	Range		3	
	Interquartile Range		1	
	Skewness		-.084	.166
	Kurtosis		.113	.330
WARMTH	Mean		27.44	.376
	95% Confidence Interval for Mean	Lower Bound	26.70	
		Upper Bound	28.18	
	5% Trimmed Mean		27.66	
	Median		28.00	
	Variance		30.415	
	Std. Deviation		5.515	
	Minimum		11	
	Maximum		36	
	Range		25	
	Interquartile Range		8	
	Skewness		-.495	.166
	Kurtosis		-.163	.330
RECIP	Mean		5.03	.071
	95% Confidence Interval for Mean	Lower Bound	4.88	
		Upper Bound	5.17	
	5% Trimmed Mean		5.04	
	Median		5.00	
	Variance		1.098	
	Std. Deviation		1.048	
	Minimum		2	
	Maximum		7	
	Range		5	
	Interquartile Range		2	
	Skewness		-.227	.166
	Kurtosis		-.504	.330
AUTHOR	Mean		3.29	.066
	95% Confidence Interval for Mean	Lower Bound	3.16	
		Upper Bound	3.42	
	5% Trimmed Mean		3.26	
	Median		3.13	
	Variance		.941	
	Std. Deviation		.970	
	Minimum		1	
	Maximum		6	
	Range		5	
	Interquartile Range		1	

Skewness	.553	.166
Kurtosis	.195	.330

Table 4: Kolmogorov-Smirnov Test Table

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
MACHI	.092	215	<.001	.976	215	.001
NARC	.068	215	.018	.986	215	.033
PSYC	.088	215	<.001	.985	215	.025
WARMTH	.096	215	<.001	.969	215	<.001
RECIP	.072	215	.009	.982	215	.008
AUTHOR	.089	215	<.001	.976	215	<.001

a. Lilliefors Significance Correction

Appendix C2: Histograms

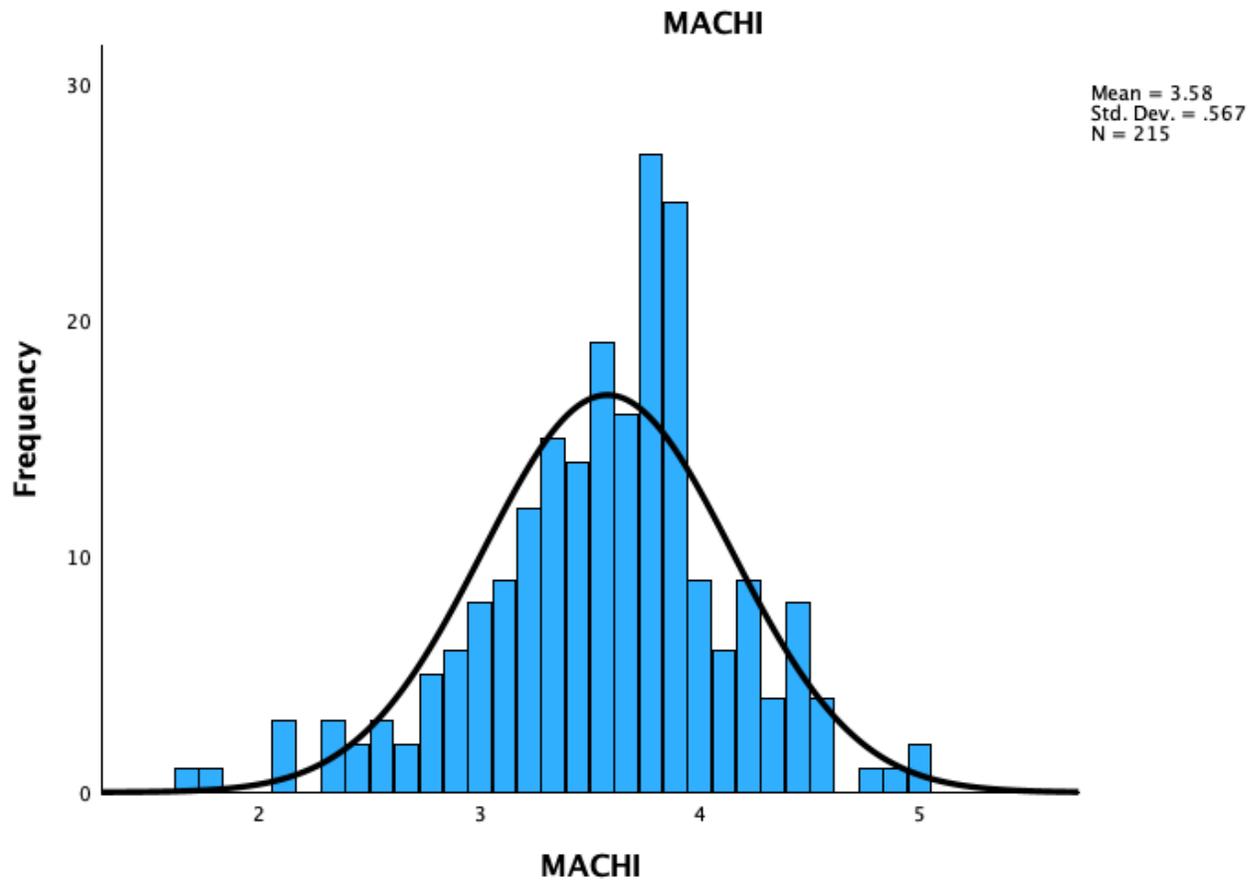


Figure 1: Histogram of Machiavellianism Distribution

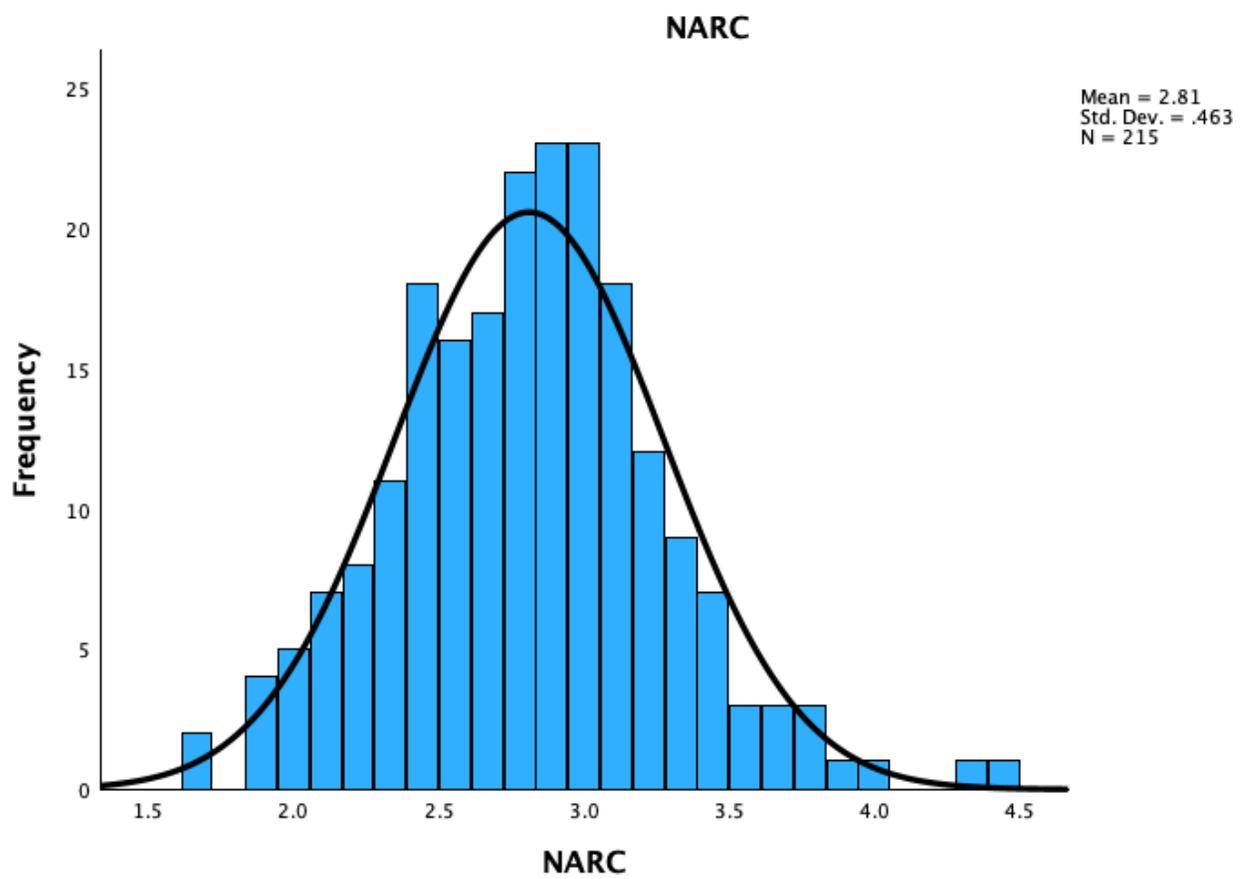


Figure 2: Histogram of Narcissism Distribution

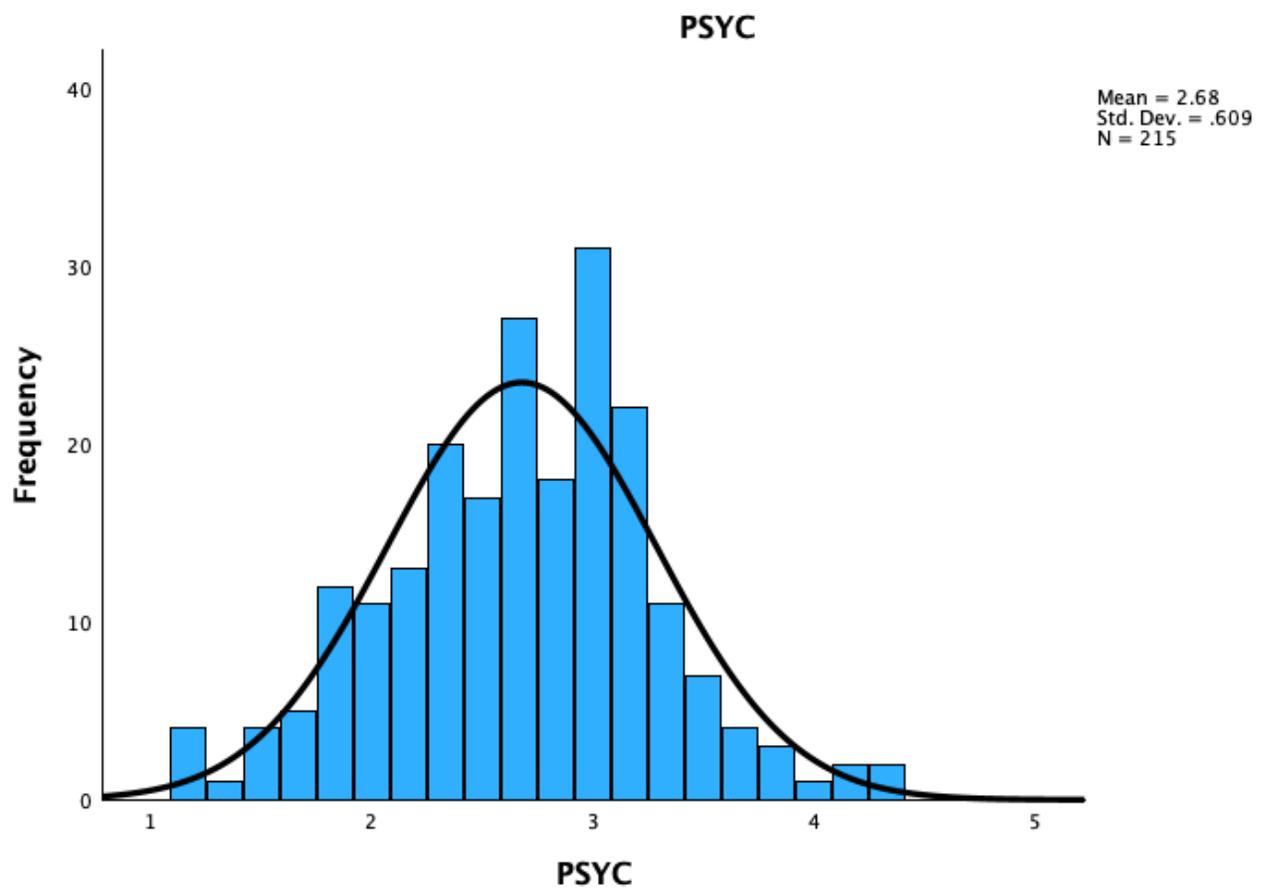


Figure 3: Histogram of Psychopathy Distribution

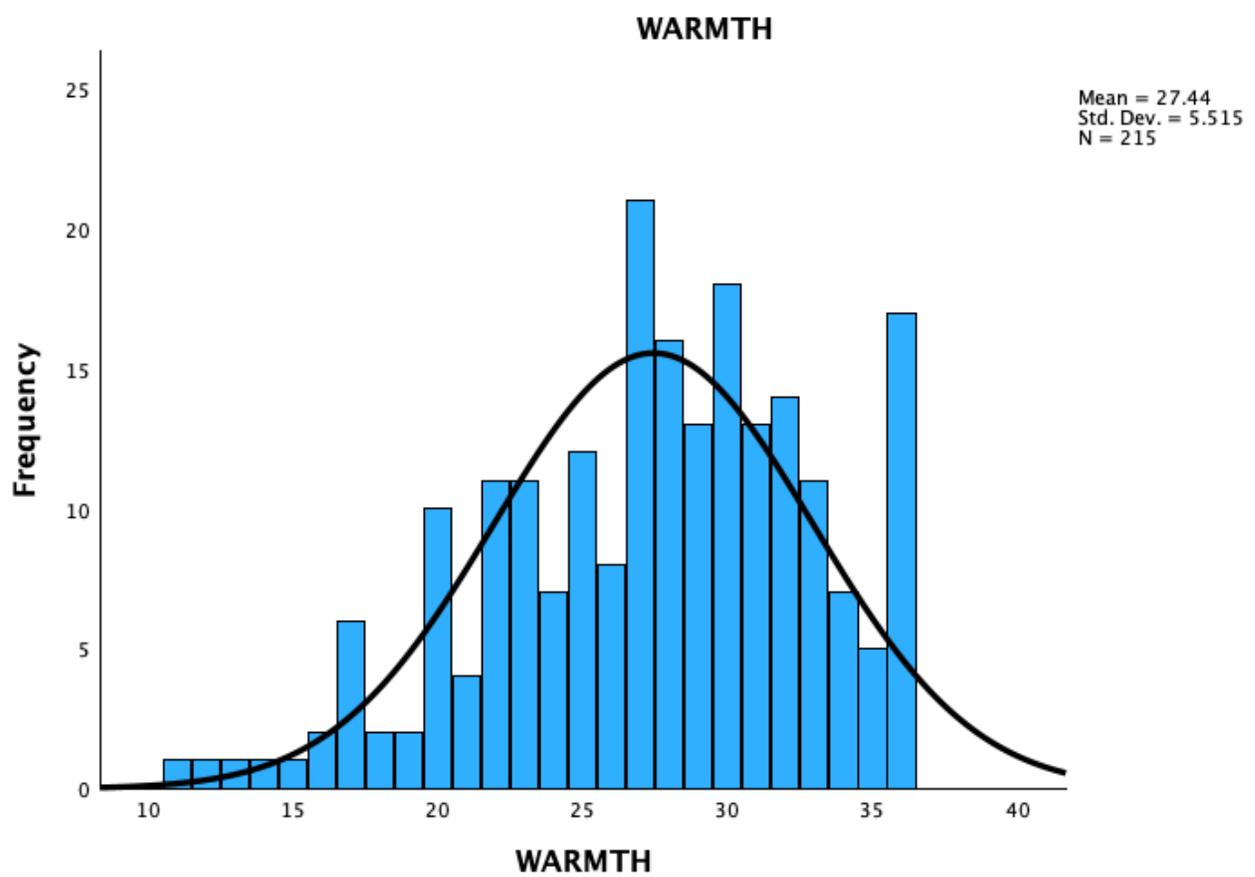


Figure 4: Histogram of Perceived Parental Warmth Distribution

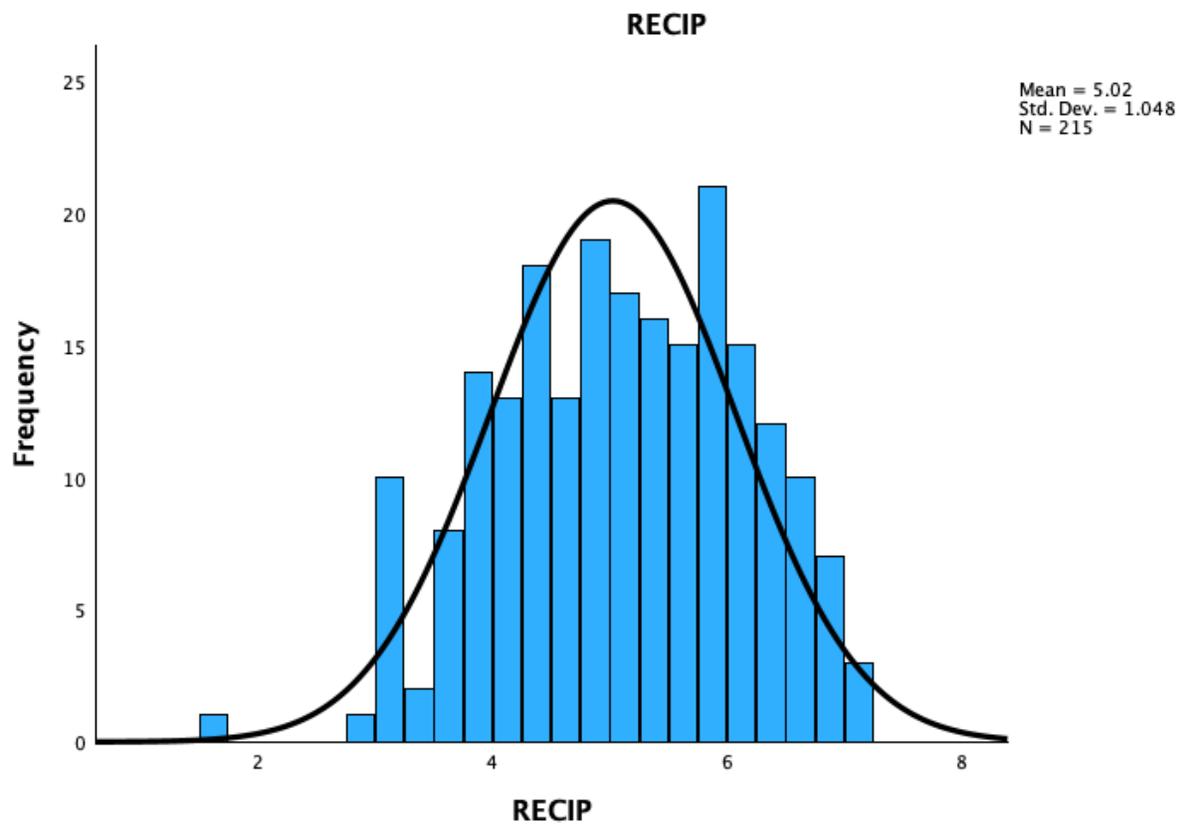


Figure 5: Histogram of Reciprocal Filial Piety Distribution

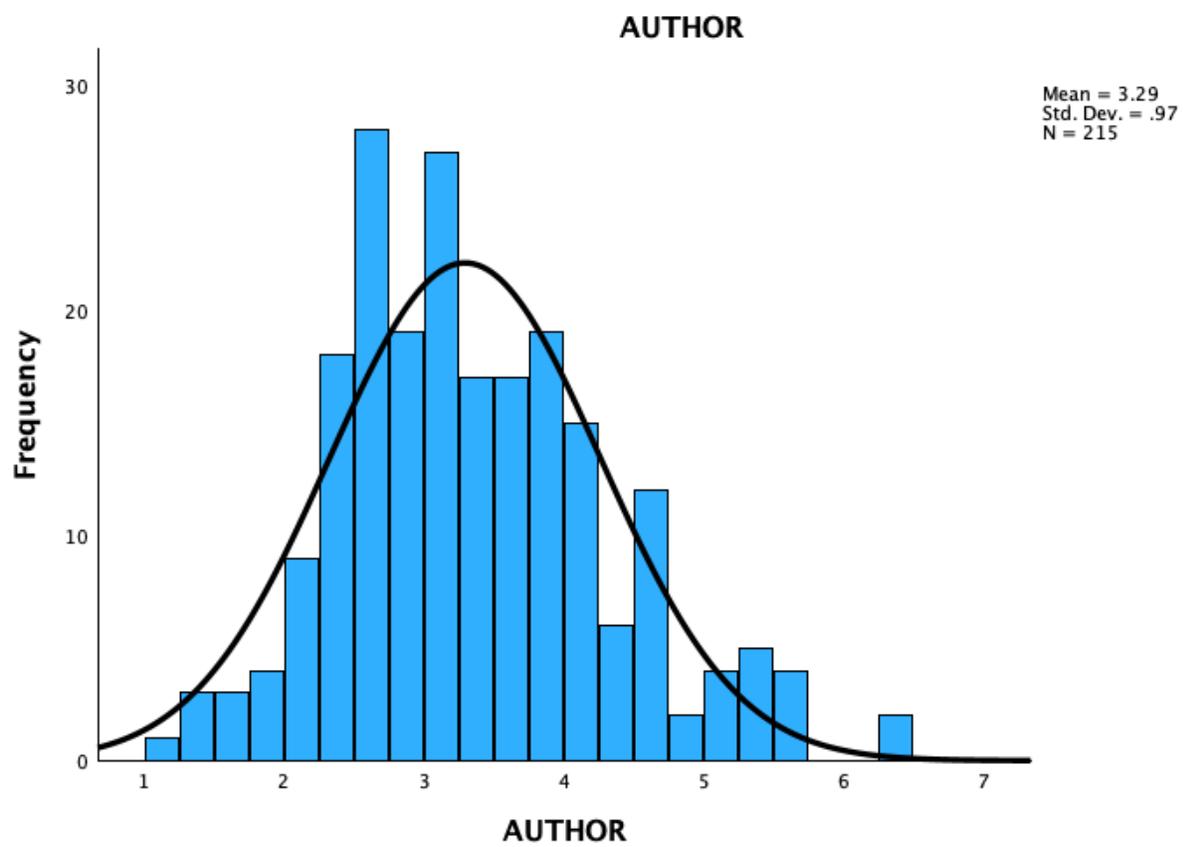


Figure 6: Histogram of Authoritarian Filial Piety Distribution

Appendix C3: Q-Q plots

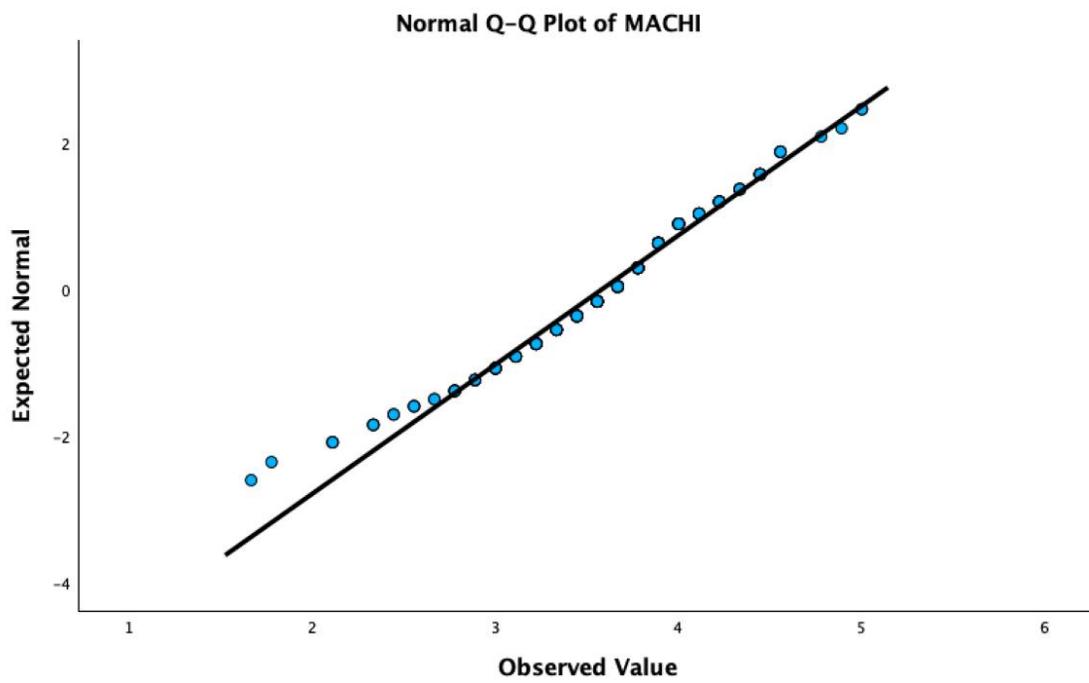


Figure 1: Q-Q Plot of Machiavellianism

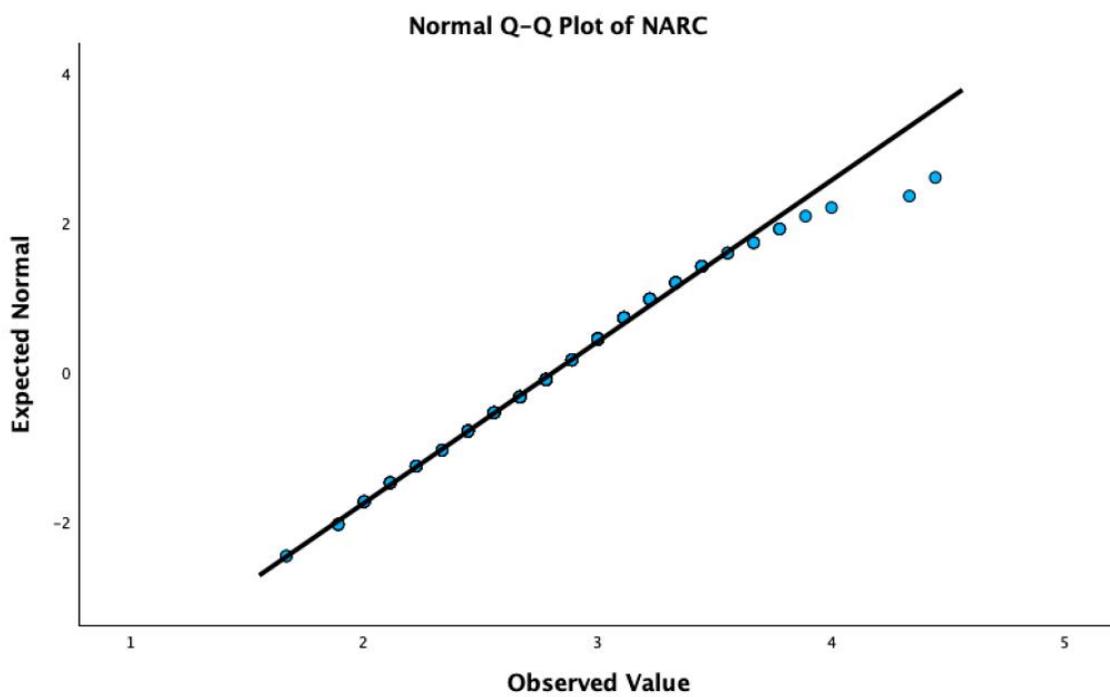


Figure 2: Q-Q Plot of Narcissism

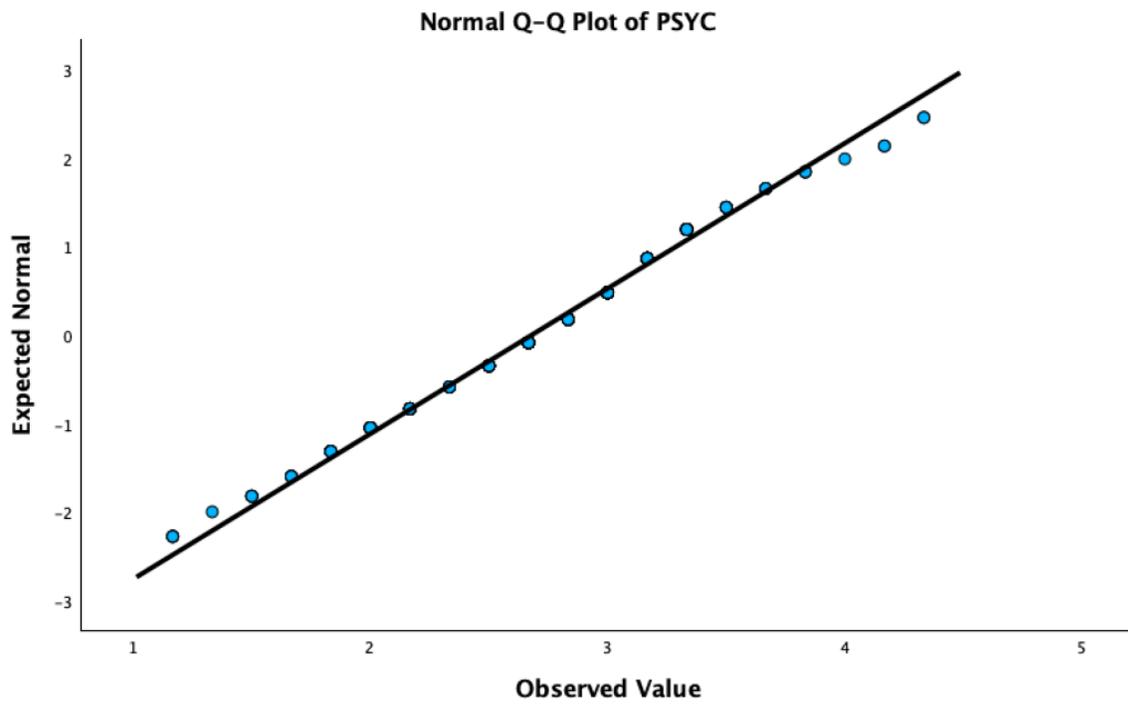


Figure 3: Q-Q Plot of Psychopathy

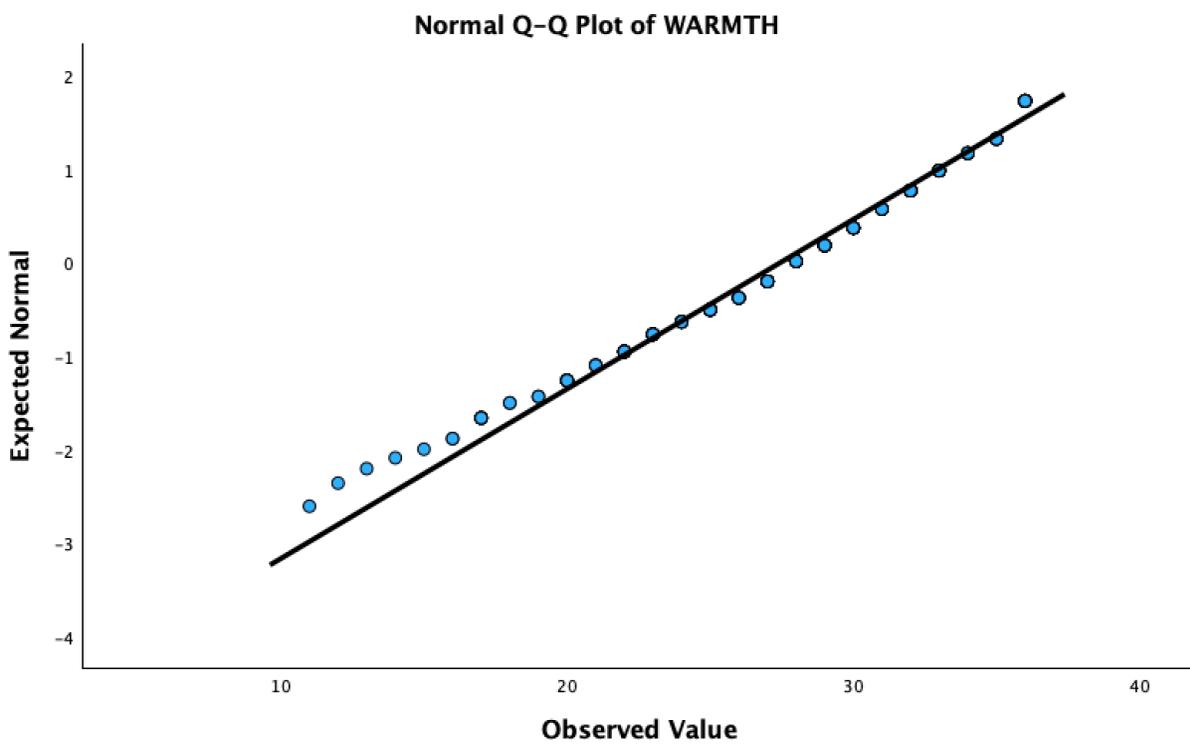


Figure 4: Q-Q Plot of Perceived Parental Warmth

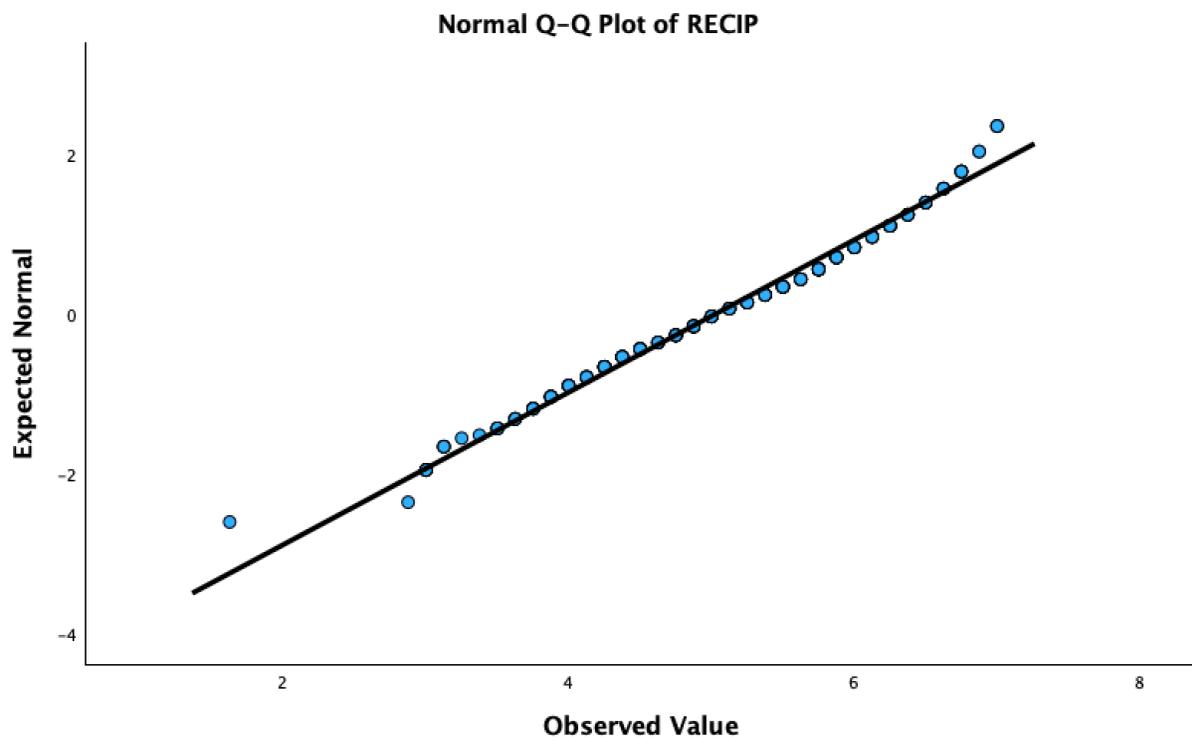


Figure 5: Q-Q Plot of Reciprocal Filial Piety

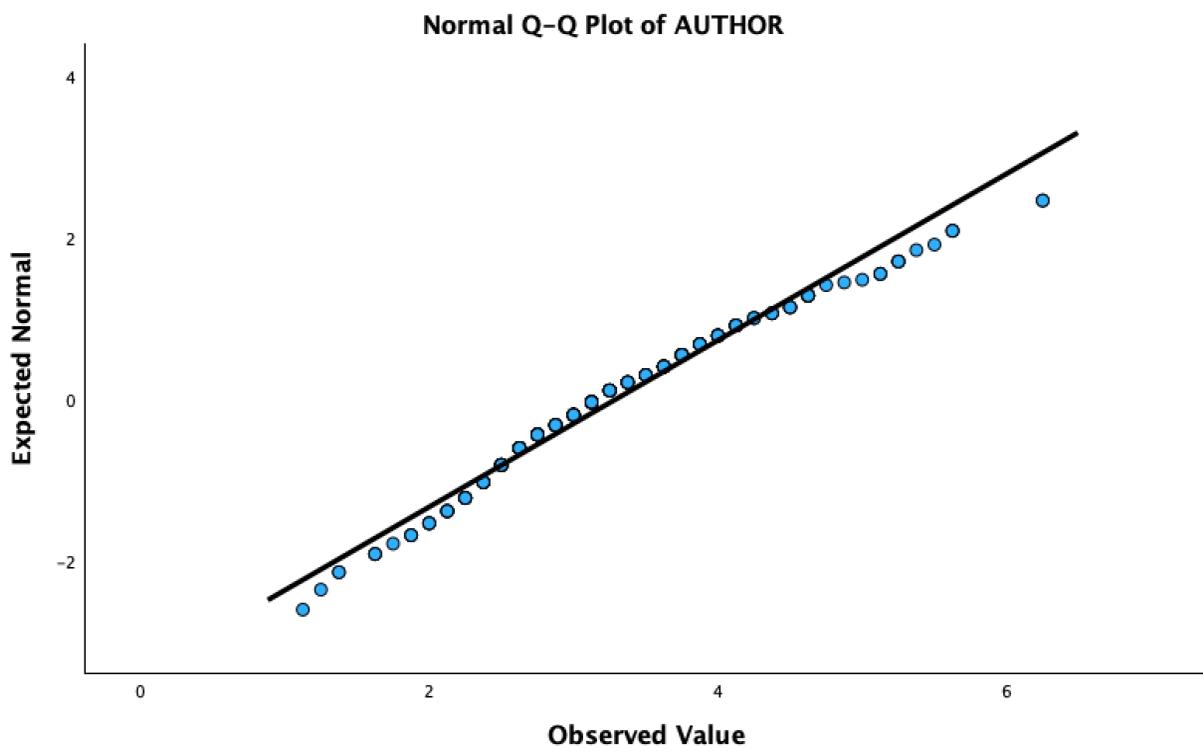


Figure 6: Q-Q Plot of Authoritarian Filial Piety

Appendix C4: Correlation Analysis

		Correlations				
		MACHI	NARC	PSYC	RECIP	AUTHOR
MACHI	Pearson Correlation	1	.122*	.333**	.173**	.163**
	Sig. (1-tailed)		.037	<.001	.006	.008
	N	215	215	215	215	215
NARC	Pearson Correlation	.122*	1	.250**	.012	-.002
	Sig. (1-tailed)	.037		<.001	.433	.489
	N	215	215	215	215	215
PSYC	Pearson Correlation	.333**	.250**	1	-.138*	.183**
	Sig. (1-tailed)	<.001	<.001		.022	.003
	N	215	215	215	215	215
RECIP	Pearson Correlation	.173**	.012	-.138*	1	.383**
	Sig. (1-tailed)	.006	.433	.022		<.001
	N	215	215	215	215	215
AUTHOR	Pearson Correlation	.163**	-.002	.183**	.383**	1
	Sig. (1-tailed)	.008	.489	.003	<.001	
	N	215	215	215	215	215

*. Correlation is significant at the 0.05 level (1-tailed).

** . Correlation is significant at the 0.01 level (1-tailed).

Appendix C5: Casewise Diagnostics Table for Outlier

(Reciprocal Filial Piety Model)

Casewise Diagnostics^a

Case Number	Std. Residual	RECIP	Predicted Value	Residual
183	-3.807	2	5.49	-3.865

a. Dependent Variable: RECIP

Appendix C6: Case Summaries Table

(Reciprocal Filial Piety Model and Authoritarian Filial Piety Model)

Case Summaries

		Mahalanobis Distance	Cook's Distance	Centered Leverage Value	Mahalanobis Distance	Cook's Distance	Centered Leverage Value
Group Code	1	43.38791	.13075	.20275	43.38791	.13603	.20275
	2	54.03210	.09822	.25249	54.03210	.06320	.25249
	3	35.99634	.02095	.16821	35.99634	.14588	.16821
	4	37.35269	.00422	.17455	37.35269	.07132	.17455
	5	18.83851	.00689	.08803	18.83851	.00023	.08803
	6	19.37985	.01672	.09056	19.37985	.01913	.09056
	7	15.62420	.01329	.07301	15.62420	.01334	.07301
	8	21.53318	.00109	.10062	21.53318	.00422	.10062
	9	14.76946	.03237	.06902	14.76946	.00479	.06902
	10	19.53207	.07567	.09127	19.53207	.03911	.09127
	11	15.86200	.00135	.07412	15.86200	.00205	.07412
	12	18.94353	.00086	.08852	18.94353	.00976	.08852
	13	10.82944	.00102	.05060	10.82944	.02118	.05060
	14	13.83692	.01724	.06466	13.83692	.00031	.06466
	15	11.69719	.01022	.05466	11.69719	.00501	.05466
	16	11.81530	.04014	.05521	11.81530	.00000	.05521
	17	19.18963	.00829	.08967	19.18963	.00072	.08967
	18	9.68084	.01061	.04524	9.68084	.00019	.04524
	19	9.37818	.02759	.04382	9.37818	.00265	.04382
	20	21.22697	.00000	.09919	21.22697	.00157	.09919
	21	33.60762	.00167	.15704	33.60762	.00021	.15704
	22	26.80230	.07097	.12524	26.80230	.02266	.12524
	23	9.60155	.01937	.04487	9.60155	.01055	.04487
	24	68.56310	.07368	.32039	68.56310	.35465	.32039
	25	46.30032	.01578	.21636	46.30032	.00301	.21636
	26	11.06589	.00199	.05171	11.06589	.01463	.05171
	27	12.73220	.03583	.05950	12.73220	.00010	.05950
	28	36.26904	.08370	.16948	36.26904	.07160	.16948
	29	14.08170	.03667	.06580	14.08170	.05626	.06580
	30	9.15350	.01698	.04277	9.15350	.00406	.04277
	31	6.38050	.00743	.02982	6.38050	.00069	.02982
	32	13.47574	.00352	.06297	13.47574	.01278	.06297
	33	24.99891	.00337	.11682	24.99891	.03769	.11682
	34	9.82001	.00899	.04589	9.82001	.01076	.04589
	35	12.61553	.00787	.05895	12.61553	.00849	.05895
	36	15.82661	.05169	.07396	15.82661	.00263	.07396
	37	6.47772	.00065	.03027	6.47772	.00664	.03027
	38	12.64065	.00250	.05907	12.64065	.00725	.05907
	39	9.36582	.00140	.04377	9.36582	.00682	.04377
	40	12.73844	.01111	.05953	12.73844	.00386	.05953
	41	39.49517	.01644	.18456	39.49517	.01391	.18456
	42	6.54407	.00179	.03058	6.54407	.00120	.03058
	43	5.45376	.00946	.02548	5.45376	.01813	.02548
	44	5.14962	.00081	.02406	5.14962	.00567	.02406
	45	5.78970	.02319	.02705	5.78970	.00028	.02705
	46	9.49177	.00179	.04435	9.49177	.00007	.04435

47	4.45410	.00211	.02081	4.45410	.01031	.02081
48	11.40044	.00707	.05327	11.40044	.00448	.05327
49	13.19818	.00045	.06167	13.19818	.00195	.06167
50	5.50420	.00778	.02572	5.50420	.01207	.02572
51	7.03337	.00290	.03287	7.03337	.00332	.03287
52	5.01347	.00675	.02343	5.01347	.00058	.02343
53	10.81244	.00000	.05053	10.81244	.00198	.05053
54	12.34101	.00908	.05767	12.34101	.00169	.05767
55	3.92765	.00036	.01835	3.92765	.00038	.01835
56	6.62714	.00241	.03097	6.62714	.00152	.03097
57	4.10259	.00190	.01917	4.10259	.00966	.01917
58	5.28131	.00119	.02468	5.28131	.00602	.02468
59	6.41722	.00079	.02999	6.41722	.00512	.02999
60	3.93998	.00104	.01841	3.93998	.00161	.01841
61	4.66321	.00339	.02179	4.66321	.00312	.02179
62	3.48138	.00450	.01627	3.48138	.00034	.01627
63	3.07714	.00059	.01438	3.07714	.00245	.01438
64	3.01955	.00000	.01411	3.01955	.00024	.01411
65	3.23576	.00098	.01512	3.23576	.00001	.01512
66	3.80794	.01203	.01779	3.80794	.00491	.01779
67	15.94501	.00188	.07451	15.94501	.00368	.07451
68	11.61931	.00989	.05430	11.61931	.01325	.05430
69	8.70514	.01608	.04068	8.70514	.00862	.04068
70	7.11906	.00020	.03327	7.11906	.01184	.03327
71	3.16643	.00236	.01480	3.16643	.00181	.01480
72	2.61685	.00000	.01223	2.61685	.00003	.01223
73	3.54829	.00000	.01658	3.54829	.00019	.01658
74	6.14260	.00168	.02870	6.14260	.00605	.02870
75	6.41761	.00060	.02999	6.41761	.00000	.02999
76	2.99766	.01173	.01401	2.99766	.00411	.01401
77	5.08639	.00524	.02377	5.08639	.00002	.02377
78	3.90509	.00046	.01825	3.90509	.00478	.01825
79	9.96181	.00195	.04655	9.96181	.01307	.04655
80	7.87824	.00001	.03681	7.87824	.00186	.03681
81	7.13934	.00053	.03336	7.13934	.00182	.03336
82	5.72328	.00001	.02674	5.72328	.00128	.02674
83	3.37093	.00213	.01575	3.37093	.00000	.01575
84	2.64549	.00005	.01236	2.64549	.00099	.01236
85	3.40866	.00007	.01593	3.40866	.00085	.01593
86	3.34225	.00046	.01562	3.34225	.00020	.01562
87	3.31547	.00000	.01549	3.31547	.00000	.01549
88	4.21608	.00095	.01970	4.21608	.00000	.01970
89	8.29553	.00031	.03876	8.29553	.01020	.03876
90	8.73164	.00206	.04080	8.73164	.00218	.04080
91	4.54718	.00039	.02125	4.54718	.00083	.02125
92	4.62968	.00031	.02163	4.62968	.00021	.02163
93	7.12938	.02073	.03331	7.12938	.00000	.03331
94	2.51104	.00192	.01173	2.51104	.00247	.01173
95	6.89204	.00045	.03221	6.89204	.00243	.03221
96	2.86990	.00271	.01341	2.86990	.00087	.01341

97	2.92055	.00391	.01365	2.92055	.00000	.01365
98	2.29114	.00039	.01071	2.29114	.00354	.01071
99	4.58660	.00114	.02143	4.58660	.00006	.02143
100	4.14022	.00005	.01935	4.14022	.00936	.01935
101	2.20367	.00026	.01030	2.20367	.00000	.01030
102	2.05908	.00303	.00962	2.05908	.00063	.00962
103	2.43290	.00043	.01137	2.43290	.00044	.01137
104	3.82923	.00090	.01789	3.82923	.00784	.01789
105	2.81504	.00052	.01315	2.81504	.00195	.01315
106	3.03971	.00430	.01420	3.03971	.00103	.01420
107	2.52574	.00175	.01180	2.52574	.00079	.01180
108	5.81461	.00048	.02717	5.81461	.00000	.02717
109	3.00359	.00041	.01404	3.00359	.00410	.01404
110	1.86775	.00026	.00873	1.86775	.00012	.00873
111	3.94262	.00212	.01842	3.94262	.00674	.01842
112	3.11614	.00003	.01456	3.11614	.00035	.01456
113	3.99187	.00475	.01865	3.99187	.00197	.01865
114	2.18756	.00168	.01022	2.18756	.00036	.01022
115	2.35079	.00019	.01099	2.35079	.00314	.01099
116	2.84065	.00139	.01327	2.84065	.00179	.01327
117	3.48304	.00118	.01628	3.48304	.00418	.01628
118	1.49812	.00194	.00700	1.49812	.00034	.00700
119	1.52286	.00182	.00712	1.52286	.00033	.00712
120	5.12472	.00330	.02395	5.12472	.00168	.02395
121	2.43819	.00085	.01139	2.43819	.00026	.01139
122	4.02102	.00009	.01879	4.02102	.00819	.01879
123	2.12813	.00354	.00994	2.12813	.00107	.00994
124	2.31872	.00132	.01084	2.31872	.00379	.01084
125	1.27992	.00054	.00598	1.27992	.00008	.00598
126	7.23192	.00117	.03379	7.23192	.01056	.03379
127	2.32279	.00083	.01085	2.32279	.00268	.01085
128	2.26557	.00114	.01059	2.26557	.00320	.01059
129	1.28114	.00344	.00599	1.28114	.00118	.00599
130	2.54137	.00021	.01188	2.54137	.00025	.01188
131	12.04464	.00096	.05628	12.04464	.01423	.05628
132	7.07400	.00219	.03306	7.07400	.00068	.03306
133	1.83784	.00036	.00859	1.83784	.00140	.00859
134	5.80639	.00309	.02713	5.80639	.00348	.02713
135	6.31911	.00624	.02953	6.31911	.00922	.02953
136	1.16973	.00045	.00547	1.16973	.00063	.00547
137	1.30139	.00020	.00608	1.30139	.00407	.00608
138	2.54859	.00443	.01191	2.54859	.00554	.01191
139	3.93148	.00184	.01837	3.93148	.00656	.01837
140	2.17083	.00005	.01014	2.17083	.00088	.01014
141	1.25380	.00360	.00586	1.25380	.00086	.00586
142	13.32388	.00279	.06226	13.32388	.00386	.06226
143	1.03834	.00231	.00485	1.03834	.00100	.00485
144	3.50807	.00030	.01639	3.50807	.00127	.01639
145	1.91581	.00688	.00895	1.91581	.00298	.00895
146	1.15967	.00001	.00542	1.15967	.00042	.00542

147	1.48174	.00041	.00692	1.48174	.00107	.00692
148	1.33578	.00001	.00624	1.33578	.00001	.00624
149	1.07409	.00299	.00502	1.07409	.00097	.00502
150	6.58242	.00000	.03076	6.58242	.00180	.03076
151	2.34330	.00737	.01095	2.34330	.00294	.01095
152	2.27188	.00103	.01062	2.27188	.00010	.01062
153	5.76236	.00046	.02693	5.76236	.00100	.02693
154	1.57047	.00062	.00734	1.57047	.00269	.00734
155	1.28977	.00114	.00603	1.28977	.00228	.00603
156	3.79070	.00081	.01771	3.79070	.00082	.01771
157	2.04514	.00181	.00956	2.04514	.00000	.00956
158	5.04291	.00191	.02357	5.04291	.00069	.02357
159	2.23263	.00011	.01043	2.23263	.00212	.01043
160	1.41443	.00100	.00661	1.41443	.00003	.00661
161	6.04501	.00383	.02825	6.04501	.00530	.02825
162	2.53467	.00008	.01184	2.53467	.00000	.01184
163	.82305	.00138	.00385	.82305	.00018	.00385
164	1.32521	.00532	.00619	1.32521	.00091	.00619
165	2.40899	.00133	.01126	2.40899	.00526	.01126
166	.83638	.00002	.00391	.83638	.00000	.00391
167	1.45455	.00007	.00680	1.45455	.00016	.00680
168	1.85900	.00003	.00869	1.85900	.00000	.00869
169	1.68200	.00042	.00786	1.68200	.00241	.00786
170	2.15579	.00046	.01007	2.15579	.00062	.01007
171	3.49145	.00507	.01632	3.49145	.00304	.01632
172	3.08123	.00102	.01440	3.08123	.00031	.01440
173	1.84784	.00362	.00863	1.84784	.00280	.00863
174	1.70353	.00573	.00796	1.70353	.00070	.00796
175	2.77959	.00135	.01299	2.77959	.00146	.01299
176	1.46490	.00007	.00685	1.46490	.00000	.00685
177	1.96321	.00064	.00917	1.96321	.00133	.00917
178	2.78569	.00025	.01302	2.78569	.00326	.01302
179	2.06169	.00334	.00963	2.06169	.00766	.00963
180	1.76727	.00004	.00826	1.76727	.00001	.00826
181	4.34383	.00101	.02030	4.34383	.00049	.02030
182	.71048	.00045	.00332	.71048	.00105	.00332
183	2.17248	.00132	.01015	2.17248	.00365	.01015
184	4.55819	.00022	.02130	4.55819	.00863	.02130
185	.65059	.00054	.00304	.65059	.00217	.00304
186	2.12764	.00787	.00994	2.12764	.00047	.00994
187	1.13315	.00105	.00530	1.13315	.00180	.00530
188	3.78159	.00034	.01767	3.78159	.00282	.01767
189	1.60827	.00223	.00752	1.60827	.00034	.00752
190	.68902	.00039	.00322	.68902	.00109	.00322
191	1.33624	.00091	.00624	1.33624	.00145	.00624
192	.95661	.00039	.00447	.95661	.00053	.00447
193	3.43092	.00001	.01603	3.43092	.00005	.01603
194	.35536	.00062	.00166	.35536	.00039	.00166
195	.42399	.00007	.00198	.42399	.00098	.00198
196	.61312	.00100	.00287	.61312	.00074	.00287

197	.31286	.00005	.00146	.31286	.00011	.00146
198	2.75936	.00322	.01289	2.75936	.00182	.01289
199	.71121	.00056	.00332	.71121	.00200	.00332
200	.38105	.00011	.00178	.38105	.00117	.00178
201	.46646	.00002	.00218	.46646	.00052	.00218
202	.77306	.00126	.00361	.77306	.00120	.00361
203	3.31795	.00017	.01550	3.31795	.00135	.01550
204	3.54677	.00000	.01657	3.54677	.00840	.01657
205	1.81096	.00010	.00846	1.81096	.00052	.00846
206	.43610	.00526	.00204	.43610	.00194	.00204
207	2.91625	.00092	.01363	2.91625	.00089	.01363
208	1.27510	.00021	.00596	1.27510	.00002	.00596
209	.13328	.00001	.00062	.13328	.00002	.00062
210	.42554	.00148	.00199	.42554	.00022	.00199
211	2.46978	.00261	.01154	2.46978	.00389	.01154
212	8.65447	.00346	.04044	8.65447	.00644	.04044
213	.47075	.00366	.00220	.47075	.00128	.00220
214	5.33302	.00356	.02492	5.33302	.00683	.02492
215	.22230	.00147	.00104	.22230	.00339	.00104
Total	N	215	215	215	215	215
T o t a l	N	215	215	215	215	215

Appendix C7: Residuals Statistics Table for Outlier Screening
(Authoritarian Filial Piety Model)

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.47	3.89	3.29	.213	215
Residual	-2.232	2.674	.000	.946	215
Std. Predicted Value	-3.831	2.826	.000	1.000	215
Std. Residual	-2.342	2.805	.000	.993	215

a. Dependent Variable: AUTHOR

Appendix C8: Moderation Results

Figure 1

Moderation Result of Machiavellianism, perceived parental warmth, and reciprocal filial piety

```

Model: 1
  Y: RECIP
  X: C_MACHI
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      RECIP    C_MACHI    C_WARMTH
RECIP    1.0000    .1729    .4898
C_MACHI    .1729    1.0000    .0674
C_WARMTH    .4898    .0674    1.0000

*****

OUTCOME VARIABLE:
RECIP

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .5151    .2654    .8181    25.4056    3.0000    211.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    5.0201    .0618    81.2296    .0000    4.8983    5.1420
C_MACHI     .2618    .1094    2.3931    .0176    .0461    .4774
C_WARMTH    .0904    .0113    8.0354    .0000    .0683    .1126
Int_1       .0232    .0180    1.2873    .1994    -.0123    .0588

Scale-free and standardized measures of association
      r      sf      pr      standYX      standY      standX
C_MACHI    .1729    .1412    .1626    .1415    .2498    .1483
C_WARMTH    .4898    .4741    .4841    .4760    .0863    .4988
Int_1       .1016    .0760    .0883    .0761    .0222    .0797

      eta-sq      p_eta-sq      f-sq
C_MACHI    .0199    .0264    .0271
C_WARMTH    .2248    .2343    .3060
Int_1       .0058    .0078    .0079

Product terms key:
Int_1      :      C_MACHI x |      C_WARMTH

Shape of residuals
      Skewness      Kurtosis
Value    .0537    -.7869
se       .1659    .3303

Variable tolerance and VIF
      Tol.      VIF
C_MACHI    .9953    1.0047
C_WARMTH    .9922    1.0079
Int_1       .9966    1.0034
    
```

Figure 2

Moderation Result of Narcissim, perceived parental warmth, and reciprocal filial piety

```

Model: 1
  Y: RECI
  X: C_NARC
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      RECI      C_NARC      C_WARMTH
RECI      1.0000      .0115      .4898
C_NARC      .0115      1.0000      .1235
C_WARMTH      .4898      .1235      1.0000

*****

OUTCOME VARIABLE:
RECI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4926      .2426      .8434      22.5300      3.0000      211.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      5.0268      .0630      79.7616      .0000      4.9026      5.1511
C_NARC      -.1185      .1385      -.8558      .3931      -.3914      .1544
C_WARMTH      .0941      .0115      8.1986      .0000      .0715      .1168
Int_1      -.0058      .0223      -.2602      .7949      -.0497      .0381

Scale-free and standardized measures of association
      r      sr      pr      standYX      standY      standX
C_NARC      .0115      -.0513      -.0588      -.0524      -.1131      -.0549
C_WARMTH      .4898      .4912      .4915      .4954      .0898      .5191
Int_1      -.0362      -.0156      -.0179      -.0158      -.0055      -.0166

      eta-sq      p_eta-sq      f-sq
C_NARC      .0026      .0035      .0035
C_WARMTH      .2413      .2416      .3186
Int_1      .0002      .0003      .0003

Product terms key:
Int_1:      C_NARC      x      C_WARMTH

Shape of residuals
      Skewness      Kurtosis
Value      .0051      -.7168
se      .1659      .3303

Variable tolerance and VIF
      Tol.      VIF
C_NARC      .9573      1.0446
C_WARMTH      .9833      1.0170
Int_1      .9687      1.0323
    
```

Figure 3

Moderation Result of Psychopathy, perceived parental warmth, and reciprocal filial piety

```

Model: 1
  Y: RECIP
  X: C_PSYC
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      RECIP    C_PSYC    C_WARMTH
RECIP    1.0000   -.1381    .4898
C_PSYC   -.1381    1.0000   -.0899
C_WARMTH .4898   -.0899    1.0000

*****

OUTCOME VARIABLE:
RECIP

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .5029   .2529   .8320   23.8044   3.0000   211.0000   .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    5.0313   .0625   80.5115   .0000   4.9081   5.1545
C_PSYC     -.1713   .1030   -1.6624   .0979   -.3744   .0318
C_WARMTH    .0915   .0114    8.0608   .0000   .0691   .1139
Int_1       .0211   .0198   1.0653   .2880   -.0179   .0600

Scale-free and standardized measures of association
      r      sr      pr      standYX      standY      standX
C_PSYC  -.1381  -.0989  -.1137  -.0996  -.1635  -.1044
C_WARMTH .4898   .4797   .4852   .4816   .0873   .5047
Int_1    .0503   .0634   .0731   .0636   .0201   .0666

      eta-sq  p_eta-sq      f-sq
C_PSYC   .0098  .0129   .0131
C_WARMTH .2301   .2354   .3079
Int_1    .0040   .0053   .0054

Product terms key:
  Int_1:      C_PSYC  x      C_WARMTH

Shape of residuals
      Skewness  Kurtosis
Value  .0336  -.7883
se     .1659  .3303

Variable tolerance and VIF
      Tol.      VIF
C_PSYC  .9863  1.0139
C_WARMTH .9919  1.0082
Int_1   .9942  1.0058
    
```

Figure 4

Moderation Result of Machiavellianism, perceived parental warmth, and authoritarian filial piety

```

Model: 1
  Y: AUTHOR
  X: C_MACHI
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      AUTHOR    C_MACHI    C_WARMTH
AUTHOR    1.0000    .1633    .1837
C_MACHI   .1633    1.0000    .0674
C_WARMTH  .1837    .0674    1.0000

*****

OUTCOME VARIABLE:
AUTHOR

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .2511    .0631    .8945    4.7343    3.0000    211.0000    .0032

Model
      Coeff      se      t      p      LLCI      ULCI
constant    3.2871    .0646    50.8671    .0000    3.1597    3.4145
C_MACHI     .2615    .1144    2.2861    .0232    .0360    .4869
C_WARMTH    .0297    .0118    2.5239    .0123    .0065    .0529
Int_1       .0227    .0189    1.2047    .2297    -.0145    .0599

Scale-free and standardized measures of association
      r      sr      pr      standYX      standY      standX
C_MACHI  .1633    .1523    .1555    .1527    .2695    .1481
C_WARMTH .1837    .1682    .1712    .1688    .0306    .1638
Int_1    .0885    .0803    .0826    .0804    .0234    .0780

      eta-sq      p_eta-sq      f-sq
C_MACHI  .0232    .0242    .0248
C_WARMTH .0283    .0293    .0302
Int_1    .0064    .0068    .0069

Product terms key:
Int_1:      C_MACHI x      C_WARMTH

Shape of residuals
      Skewness      Kurtosis
Value  .4252    .0325
se     .1659    .3303

Variable tolerance and VIF
      Tol.      VIF
C_MACHI  .9953    1.0047
C_WARMTH .9922    1.0079
Int_1    .9966    1.0034
    
```

Figure 5

Moderation Result of Narcissism, perceived parental warmth, and authoritarian filial piety

```

Model: 1
  Y: AUTHOR
  X: C_NARC
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      AUTHOR      C_NARC      C_WARMTH
AUTHOR      1.0000      -.0019      .1837
C_NARC      -.0019      1.0000      .1235
C_WARMTH    .1837      .1235      1.0000

*****

OUTCOME VARIABLE:
  AUTHOR

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .1954      .0382      .9182      2.7916      3.0000      211.0000      .0414

Model
      coeff      se      t      p      LLCI      ULCI
constant      3.2852      .0658      49.9588      .0000      3.1556      3.4148
C_NARC      -.0302      .1445      -.2094      .8343      -.3150      .2545
C_WARMTH      .0333      .0120      2.7785      .0060      .0097      .0569
Int_1      .0213      .0232      .9159      .3607      -.0245      .0671

Scale-free and standardized measures of association
      r      sr      pr      standYX      standY      standX
C_NARC      -.0019      -.0141      -.0144      -.0144      -.0312      -.0140
C_WARMTH      .1837      .1876      .1879      .1892      .0343      .1835
Int_1      .0541      .0618      .0629      .0628      .0219      .0610

      eta-sq      p_eta-sq      f-sq
C_NARC      .0002      .0002      .0002
C_WARMTH      .0352      .0353      .0366
Int_1      .0038      .0040      .0040

Product terms key:
  Int_1:      C_NARC      x      C_WARMTH

Shape of residuals
      Skewness      Kurtosis
Value      .5107      .0170
se      .1659      .3303

Variable tolerance and VIF
      Tol.      VIF
C_NARC      .9573      1.0446
C_WARMTH      .9833      1.0170
Int_1      .9687      1.0323
    
```

Figure 6

Moderation Result of Psychopathy, perceived parental warmth, and authoritarian filial piety

```

Model: 1
  Y: AUTHOR
  X: C_PSYC
  W: C_WARMTH

Sample
Size: 215

Variable intercorrelations (Pearson r)
      AUTHOR      C_PSYC      C_WARMTH
AUTHOR      1.0000      .1835      .1837
C_PSYC      .1835      1.0000      -.0899
C_WARMTH    .1837     -.0899      1.0000

*****

OUTCOME VARIABLE:
AUTHOR

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3050     .0930     .8659     7.2149     3.0000     211.0000     .0001

Model
      coeff      se      t      p      LLCI      ULCI
constant    3.3046     .0637    51.8372     .0000     3.1789     3.4303
C_PSYC      .3044     .1051     2.8960     .0042     .0972     .5116
C_WARMTH    .0356     .0116     3.0760     .0024     .0128     .0585
Int_1       .0424     .0202     2.1011     .0368     .0026     .0821

Scale-free and standardized measures of association
      r      sr      pr      standYX      standY      standX
C_PSYC  .1835     .1899     .1955     .1912     .3137     .1855
C_WARMTH .1837     .2017     .2072     .2025     .0367     .1965
Int_1   .1503     .1378     .1432     .1382     .0437     .1340

      eta-sq      p_eta-sq      f-sq
C_PSYC  .0360     .0382     .0397
C_WARMTH .0407     .0429     .0448
Int_1   .0190     .0205     .0209

Product terms key:
Int_1:      C_PSYC      x      C_WARMTH

Shape of residuals
      Skewness      Kurtosis
Value  .3107     -.2959
se     .1659     .3303

Variable tolerance and VIF
      Tol.      VIF
C_PSYC  .9863     1.0139
C_WARMTH .9919     1.0082
Int_1   .9942     1.0058
    
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