# The Development of Negative Affectivity Facets Throughout Adolescence and Their Association with Agency in Dutch Adolescents

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## Abstract

Adolescence is an important time in an individual's life for establishing a stable sense of self (Adler et. al, 2012). Adolescents battle societal expectations, biological changes, and social commitments as they learn who they are. Research findings suggest an increased vulnerability to affective disorders (Forbes et. al, 2011) and increased negative affect during this time (Larson et al., 2002). This study aims to examine whether Negative Affectivity, the tendency to experience negative affect, is associated with the narrative theme of agency and how these facets develop through adolescence.

Initial analyses indicate large rank-order stability correlations for all negative affectivity facets (all $rs \geq .58$), consistent with previous research. Due to the limited associations between agency and the facets of Negative Affectivity at Waves 1 and 2, it may be that the relationship between agency and negative affectivity may not be robust in early and middle adolescence.

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# Table of Contents

**Abstract** ..... ii

**Acknowledgements** ..... iii

**Introduction** ..... 2

*Personality and the Big Five* ..... 2

*Personality Pathology and Adolescence* ..... 3

*Neuroticism, Negative Affectivity, or just feeling bad?* ..... 4

*A Look into Negative Affectivity through a Developmental Lens* ..... 6

*Narrative Identity's Links to Personality Traits* ..... 8

*The Definition of Adolescence and its Related Responsibilities* ..... 10

*Narrative Identity and Mental Health* ..... 12

*The Development of the Thematic Theme of Agency* ..... 14

*Current Study* ..... 16

**Methods:** ..... 18

*Participants:* ..... 18

*Procedure:* ..... 19

*Measures:* ..... 20

*Turning point narratives* ..... 20

*Narrative Coding* ..... 21

*Personality Inventory for DSM-5 (PID-5)* ..... 23

**Plan of Analysis:** ..... 24

**Results** ..... 24

*Preliminary Analyses* ..... 24

*Rank-Order Stability of Negative Affectivity Facets* ..... 25

*Mean-Level Changes in Negative Affectivity Facets* ..... 28

**Discussion** ..... 31

*General Changes in Stability of Negative Affectivity* ..... 32

*General Mean-Level Changes* ..... 33

*Strengths and Limitations* ..... 37

**Conclusion** ..... 40

**References** ..... 42

**Appendix** ..... 52

*Table 1: Characteristics of the Sample* ..... 52

*Table 2: Wave 1 Distribution Statistics* ..... 52
*Figure 1: Boxplots for All Facets of Negative Affectivity for Wave 1* ..... 53
*Table 3: Wave 2 Distribution Statistics* ..... 53
*Figure 2: Boxplots for All Facets of Negative Affectivity for Wave 2* ..... 54
*Table 4: Wave 3 Distribution Statistics* ..... 54
*Figure 3: Boxplots for All Facets of Negative Affectivity for Wave 3* ..... 55
*Table 5: Wave 4 Distribution Statistics* ..... 55
*Figure 4: Boxplots for All Facets of Negative Affectivity for Wave 4* ..... 56
..... 56

# The Development of Negative Affectivity Facets Throughout Adolescence and Their Association with Agency in Dutch Adolescents

# Introduction

## Personality and the Big Five

Personality psychology strives to capture the array of differences that describe individuals by identifying units of analysis, understanding developments and changes of personality components, and figuring the mechanisms behind personality (Roberts & Yoon, 2022). Personality can be regarded to be a collection of attributes within an individual that develop in certain configurations (Klimstra et al., 2018). McAdams and Pals (2006) propose that these attributes can be conceptualized as three levels: dispositional traits, characteristic adaptations, and the creation of the life story or stories. Historically, dispositional traits have been equated to personality, dominating the personality psychology subfield. Their popularity may stem from the fact that dispositional traits are broad, nonconditional, and decontextualized dimensions (i.e., extraversion, depressiveness, agreeableness) often presented implicitly comparable forms; traits are structured to be bipolar and scalar in fashion.

In the past couple of decades, the study of dispositional traits has been revived through the adoption of the personality taxonomy, the Big Five (Hill & Edmonds, 2017; Roberts & Yoon, 2022). The Big Five framework consists of broad dimensions (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) that have provided the field a model that summarizes and comprehensively organizes human trait descriptors. This organization allows for researchers to ask questions on trait development and consequential differences in life (McAdams & Pals, 2006). Specifically, the Big Five is often used to study the stability of dispositional traits over time. For example, longitudinal studies investigating the Big Five traits during adolescence illustrate that it is a period of building continuity and stability of trait dimensions (Roberts & DelVecchio, 2000; Klimstra et al., 2009). A meta-analysis studying

mean-level changes of Big Five personality traits across life illustrated that neuroticism consistently decreases and then stabilize at 40 years of age (Charles et al., 2001; Roberts et al., 2006).

Lastly, the Big Five has allowed for more effective bridges between personality psychology and other fields, specifically clinical psychology. Due to its scalar and bipolar nature, the Big Five taxonomy can represent individuals who present extreme manifestations of established personality dimensions, essentially capturing personality psychopathologies. Thus, it is unsurprising that there is content overlap between the Big Five and the new personality disorder taxonomy within the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (Krueger & Markon, 2014). In fact, a 2016 study using exploratory factor analysis found that the 10 factors within Big Five Aspects Scale (BFAS) and the 25 facet PID-5 group into 10 conceptually coherent factors, supporting the claim that both taxonomies are based on a common framework (DeYoung et al., 2016). Because the Big Five and the PID-5 are conceptually aligned, one can claim that there are similar patterns of covariation that underlie normal personality and personality pathology.

**Personality Pathology and Adolescence**

As the same mechanism is the foundation for both "normal" and "abnormal" personality, it is extremely important to attempt to understand this basis, especially through a developmental lens. Personality psychopathology or personality disorders (PDs) can significantly disturb youths' daily lives until psychological treatment is warranted (Shiner, 2009). If left unadressed, youth can face significant difficulties in their futures within the different domains of life. Unfortunately, the origins and pathways of PDs are not well-established although personality disorders (PD) are as prevalent in older adolescents as they are in adults. At birth, a child can

have some position according to a dispositional trait dimension, usually recognized as temperament, and this position can stay relative stable throughout childhood (Sharp, 2020). However, by adolescence, maladaptive personality traits increase and sometimes morph to become PD's when traits are manifested to an extreme.

Supporting the claims that traits start to stabilize as adulthood approached, there is evidence that personality disorder traits and diagnoses are more prevalent during early adolescence than in later adolescence (Johnson et al., 2006). For those who continue to have PD diagnoses in late adolescence, the PDs as well as their respective traits are moderately stable, showcasing a stabilization of personality. Thus, to gather a coherent understanding of the development personality disorders, it may be important to focus on specific traits or personality dimensions or personality domains. The personality domain of Negative Affectivity (as defined by the PID-5) or Neuroticism (as referred to in the Big Five) is most important to the understanding of psychopathology. By examining the specific facets of the domain of Negative Affectivity, one can dissect a PD to its core and note the trajectories of individual traits through a span of time, illuminating meaningful individual differences to get a picture of what is happening developmentally (Hill & Edmonds, 2017).

## Neuroticism, Negative Affectivity, or just feeling bad?

Well-established as an indicator of psychopathology, the dispositional trait of negative affectivity (NA) is a generative and pervasive negative condition which prompts individuals to experience negative emotionality (i.e. depression and anxiety) (Watson & Clark, 1984). Typically, individuals with high negative affectivity tend to experience negative emotions regardless of the presence of an obvious stressor. These individuals also tend to experience feelings lower self-perceived competence and general self-dissatisfaction, possibly relating to the

construct's association with negative mood and low self-esteem (Watson et al., 1988). However, it is important to note that negative affectivity does not relate an individual's feelings of joy, excitement, or enthusiasm. Instead, it refers to an individual's sensitivity to stressful situations.

As a correlate of trait anxiety, general maladjustment, and emotional stability, negative affectivity, unsurprisingly, can lend a lens into mental health. Higher neuroticism trait scores have also been found to correlate with subsequent diagnoses of depression in many studies and have been longitudinally associated with episodic life stress (Uliaszek et al., 2010). Another 2010 study found that neuroticism was the strongest correlate to common mental disorders, demonstrating a strong relationship with internalizing problems (Kotov et al., 2010). Clark and Watson (1984) explain that these associations between many of these mental health measures and negative affectivity is because they must measure the same construct.

If one regards negative affect and disorders to be expressions of the same underlying constructs, then negative affectivity is simply a direct indicator of mental health, a tool to be used for diagnosis (Durbin & Hicks, 2014). But this explanation does not elucidate the mechanism underlying the association between the NA domain and mental health. A possible mechanistic explanation behind the association between NA and mental health can be a bidirectionality of the relationship between personality traits and psychopathologies (Durbin & Hicks, 2014). Certain personality traits predict psychopathology and the resulting psychopathology can prompt personality changes in the individual, changing outlooks in life, experiences, and relationships (Soto & Tackett, 2015). For example, depressivity traits result from stressful life events but, the resulting depression can lead to the individual being further exposed to and reactive towards stressful life events (Uliaszek et al., 2010; Kendler and Gardner, 2010). Although the model

behind this relationship is not known, the fact remains that negative affectivity reflects the likelihood of an individual experiencing mental health problems.

**A Look into Negative Affectivity through a Developmental Lens**

Negative affectivity has been found to be a relatively stable dimension throughout the lifetime and, based on mean-level analyses, is moderately stable even after a lapse of 30 years (Watson & Clark, 1984). During emerging adulthood, ages 17 to 25 according to Arnett (2010), dispositional traits become more positive and neuroticism starts to decrease. Another mean-level analysis based study, illustrates that, negative affectivity consistently decreases until 40 years of age when it stabilizes (Charles et al., 2001; Roberts et al., 2006). Roberts et. al. (2006) explains this trend by stating that, during young adulthood (20 to 40 years), individuals start to invest more on normative social roles and take greater social responsibility (McAdams and Olson, 2010). Youth may choose to become partner, spouses, and parents and become responsible for others. Thus, individuals may practice greater emotional regulation strategies, being warmer and more caring, and the creation of close relationships (Anderson et al., 1983), leading to lower levels of neuroticism traits (Helson & Soto, 2005).

Although it is reassuring to see that the tendency to experience negative feelings decrease throughout life, it poses the question of what occurs before emerging adulthood or age 17. The decline of negative affectivity throughout the lifespan does not hold true for the trait's behavior in adolescence; generally, negative affectivity increases during adolescence. Soto et al. (2011) found, by using mean-level analyses, that while males and females had comparable neuroticism scores at age 10, trends of negative affectivity traits start to diverge on along binary gender lines through adolescence and adulthood. For females, anxiety and overall neuroticism increased throughout adolescence, stabilized during emerging adulthood, and declined across early

adulthood and middle age. In contrast, males' mean levels of anxiety and neuroticism continued to steadily decrease from late childhood to late adulthood. Previous research also bolsters the claim that by early adulthood, women tend to report higher negative affectivity than men (Wichstrøm, 1999). These gender differences arise in adolescence because girls tend to face various social and psychological difficulties that boys may not. For example, female pubertal development can occur earlier than male development, eliciting different expectations and responses from peers, adults, and others (Steinberg, 2019). The resulting physical changes can lead to societal expectations and responsibilities to be adopted by girls as well which may not be the case for boys.

Regardless of the existing literature, there needs to be more research investigating the specific developmental phase when gender differences start to emerge as that is not clear yet. In a mixed-gender, mean-analysis based study, Branje et al. (2007) notes that there were not many changes in personality in boys (ages 11—15 years of age) and reported no observed changed in emotional stability, another correlate of neuroticism, in girls aged 11 to 14 years of age which suggests that emotional stability starts to change in late adolescence. In another mixed-gender, longitudinal study, Borghuis and colleagues (2017) utilized rank-order stability to investigate individual differences and found that the trait of emotional stability increased in stability in both boys and girls from ages 12-13 to 21-22. The mean-level analyses in that study also showcase a little dip in emotional stability in girls between ages 13 to 21 when emotional stability increases once more.

As illustrated, negative affectivity generally decreases across the lifespan and a similar picture presents itself during adolescence. However, there are gaps and some inconsistencies within the literature on how this indicator of mental health manifests in youth. Some studies

relay that, based on mean-level analysis, there is a "u-shaped" trend represented by negative affectivity for teenagers and other studies depict gendered differences. Beyond the need to expand the gender variable, it is also necessary to conduct development-based research using measures other than the Big Five; the aforementioned longitudinal studies utilized this very informative taxonomy. Although the Big Five has been a core element of personality psychology, using measures such as the PID-5 would not only corroborate earlier findings but lend to more answers on the underlying mechanism of personality. In addition, the PID-5 may be more useful when trying to develop an understanding of mental health and the constructs of neuroticism and negative affectivity as it is specifically designed to detect personality disorders and extreme personality traits.

**Narrative Identity's Links to Personality Traits**

Taxonomies such as the Big Five and the PID-5 allow for researchers to not only develop an understanding of how personality traits shift and change over a lifetime but, allow a peek into the processes associated with personality development. One of the processes associated with personality development is that of identity (Hill & Edmonds, 2017). In a 2013 study, researchers found that aspects of identity, subcomponents of a consolidated sense of self, and the Big Five personality traits changed in respect to each other in an adolescent sample over a span of a year (Hill et al., 2013). This finding supports the idea that identity formation and the development of personality traits may coincide.

On a similar note, the Alternative Model for Personality Disorders in DSM-5 (AMPD) and the McAdams and Pals model of personality present frameworks to connect traits and identity formation processes. The AMPD presents that a disturbed sense of self relates to the impairments that individuals with personality disorders experience and that the identity

formation process is important to examine when trying to understand personality pathology. The McAdam and Pals' model of personality is non-specific and links dispositional traits and identity as layers of an individual. Dispositional traits are a person's biologically predispositioned and decontextualized signature which is informed by characteristic adaptations (i.e., motivations, goals, strategies, and virtues), fluid aspects of personality that consider the world around the person. These characteristic adaptations are anchored to daily life and refer to the cognitive or motivational elements of the human being (McAdams and Pals, 2006). The daily experiences that an individual has and the moments they deem to be significant in their lives accumulate to form a narrative identity, an aspect this thesis will focus on. Theoretically, these three aspects of personality create this integrative framework of the individual, all linked and related to one another to form a greater understanding of the whole person (Roberts & Yoon, 2022).

Unfortunately, there is a gap in the literature on how dispositional traits relate to narrative identity (McAdams et al., 2004). This gap has been attributed to the different methodologies that are required in a singular study to integrate these aspects of personality. Whereas trait psychologists focus on various taxonomies and the quantitative analyses they rely on, narrative psychologists use qualitative methods to make sense of individuals' narratives. This thesis seeks to bridge this gap in psychology and integrate the basic dispositional traits and the more complex narrative identity by focusing on adolescents.

The foundations of an adolescent's coherent narrative identity are laid through early caregiver interactions wherein children learn to tell life stories. As the child transitions into adolescence, they develop autobiographical reasoning, the ability to accommodate one's sense of self to capture past and current experiences (Habermas & Reese, 2015). They also adopt societal duties and appropriate their different experiences in a logical fashion to bring meaning to their

lives, forming what is referred to as narrative identity (van Doeselaar et al., 2020; Adler et al., 2016; Lind et al., 2020).The narrative identity also substantiates the individual's goals and what they stand for, aspects that constitute characteristic adaptations (Shiner, 2009). In essence, teenagers relay a culturally meaningful story to capture significant life events to create a coherent "self" (McAdams, 2001; McLean et al., 2020) By late adolescence and emerging adulthood, teenagers can tie causal narratives and explain how different events are related through overarching themes, illustrating the adolescent's unique internalized tale.

**The Definition of Adolescence and its Related Responsibilities**

The development of identity, as Erikson theorized, represents a developmental shift differentiating the child from the adolescent (ages 10 to 21 years). Erikson also argued that modern Western societies do not offer youths a "prepackaged" sense of identity that may have come in earlier centuries from a culture's religious or civic beliefs. In comparison to the last 100 years, there is now a fairly large range of independent adult roles adolescents can fulfill. If comparing to our ancestors, the 19$^{th}$ century teenager did not have many options beyond their community and their world was much smaller (Modell et al., 1976). Thus, identity development processes were constrained by the society of the time. Nowadays, the adolescent inherits a society where there is a wider range of decisions that have future consequences, more tomorrow than there were yesterday (Woolard and Scott, 2009, Habermas and Bluck, 2000).

Regardless of the social changes that uniquely craft adolescence, the requirement of more formal education has become an anchor of modern society and exposes youth to options, questions, and paths for self-discovery. If we isolate decisions that only pertain to an individual's academic path, there are thousands of decisions that an individual must undertake to continue forth in life. Starting from as young as 13 years old, the teenager is told to draw upon what they

know (or do not know about themselves) to make decisions about their future. In this thesis, I will be considering the Dutch social and educational context in order to understand the unique pressures of the teenager.

In The Netherlands, 12-year-olds, similar to their American counterparts, have to decide on the secondary education pathway they will pursue. The decision is based on the primary school recommendation, the National Institute for Educational Measurement (CITO) school leavers' attainment test score, an optional final independent assessment, and the teenager's interests. These components will help determine the secondary educational track the student will pursue: the four-year pre-vocational education track (VMBO), the five-year senior general secondary education track (HAVO), and the six-year preparatory scientific education track (VWO). The most popular of the tracks and the most direct pipeline to the labor market, the VMBO track prepares students for vocational training; if they wish to continue with their education, many VMBO students can later enroll in a MBO (middelbaar beroepsonderwijs or "secondary vocational education") program, a 3-year post-secondary institution that offers apprenticeship-based experiences or school-based training. In contrast, the HAVO and the VWO tracks prepare students for higher education. Because these tracks have similar trajectories, students can switch from the HAVO track to pursue the more research based VWO track; there is flexibility but, changing tracks is not very common to do. Once the decision for educational track is made, Dutch adolescents, especially those hailing from poorer families (because there is a limitation of 4 years for full government aid in higher education), are tasked with making the correct choice for one's major in college.

Unlike the American education system which, to a degree, emphasizes academic exploration, the Dutch education system requires that students undertake specific high school

curricula to enter certain college majors. For example, halfway through their HAVO or VWO course, a 14- or 15-year-old Dutch teenager must decide on the curriculum of their high school education (culture and society, economics and society, nature and health, nature and technology) so they can major in what they'd like to at the university level (Klimstra et al., 2012). For the aspiring American biology major, biology classes in high school, especially advanced biology classes, are attractive when college admissions departments assess applications but are not necessitated to major in the field. Regardless of academic flexibility, the decisions that adolescents (or sometimes their parents) make great impacts on these individuals' futures and even their sense of self, ringing G. Stanley Hall's descriptor of "Storm and Stress" true for the adolescence phase.

**Narrative Identity and Mental Health**

These long-term choices are what constitutes life for the short-sighted adolescent and these future decisions can lead to youth struggling with their sense of self (Habermas & Bluck, 2000). There could be various pathways represented through adolescent (or parental) decisions that craft drastically different life stories, peppered with diverse impactful experiences, but it may not always seem that way to the young adolescent (McAdams, 2001). Often focused upon the self and the now, the adolescent must learn to navigate through their life choices and start to internalize what they have learned about themselves through their trials (and tribulations).

Reminiscent of many coming-of-age literature, the journey to understand the self may not always be pleasant or objectively positive. It has been long suspected that the unique psychosocial constructions of narrative identity have ties to youth mental health, specifically in context to personality disorders (PDs). Shiner et. al (2021) suggests that the adolescent's emerging narrative identities can illustrate personality disturbances in the self which is often

indicative of poor mental functioning. Specifically, the identity formation process can be disrupted when youth present problems integrating negative experiences into a positive, functional life story (Shiner, 2009). Developmentally, children can often disregard negative experiences but, this becomes increasingly difficult as individuals become teenagers and then adults. Thus, it becomes more important to the developing adolescent to find ways to positively spin negative experiences in order to cope with them, especially if the negative experience holds a particularly emotional significance (Pals, 2006).

Adolescents who have personality disorders or exhibit pathological personality traits are suspected to not be able to present these negative, emotionally charged life experience to be positive in their life stories. The repeated inclusion of such difficult and negative content into their life stories has been strongly related to poor self-esteem, greater depression, and lower sense of hope in teenagers (McAdams, 2009; Shiner, 2009). The frequency of these negative memories in an individual's narrative can motivate them to behave or emote in a similar fashion in future situations. It is valuable to note that adolescents with PDs often have experienced heightened levels of adversity which also contributes to the frequency of negative memories in their narrative. In addition, the adolescents' personality symptoms may also be integrated into their narrative in an unhealthy fashion as PD symptoms often peak during adolescence (Klimstra & Denissen, 2017). In theory, due to this bidirectional nature between traits and life stories, an adolescent's narrative identity can bring forth new insight on how identity disturbances relate to personality disorders and, thus, the trait taxonomies such as the Big Five or the PID-5.

Another aspect of PD's that disrupt narrative identity formation are the obstacles that teenagers with PD's face in maintaining relationships with other individuals (Lind et al., 2020). Healthy adolescents will have a supportive and responsive audience who can help them develop

meaningful narratives, often helping the adolescent link experiences and cope with difficult situations (Pasupathi, 2014; Pasupathi & Hoyt, 2009). Unfortunately, the adolescent with a PD may not have that foundation, further disrupting the construction of a coherent narrative. Because narrative identity has been linked to shaping well-being and mental health over time, the adolescent will not be able to reap the psychological benefits of a coherent and integrated life story as they transition into adulthood (Shiner et al., 2021). In addition, how youth craft their narratives can also impact the progression or the course of their PD as they start to adopt adult roles, illustrating the profound role narrative identity can have for the teenager. Lastly, these background identity processes and social supports during this time can also affect the recovery process from PD.

Although we have established that the content of the adolescent's life story is incredibly important for psychopathology, it is just as important to study how the adolescent narrator tells their story. The narrators vary in the dominant themes and the emotional tones that they may use in their life stories. As previously noted, individuals with PD can exhibit a lower sense of hope which is on par with their general pattern of narration; adolescents with PD narrate their lives more negatively, showcasing how they perceive themselves.

**The Development of the Thematic Theme of Agency**

In conjunction to the affective themes that reoccur in narratives, adolescent narrators also vary in their motivational themes; the most common narrative themes pertain to agency, communion, and redemption. The theme of agency, in particular, refers to the storyteller's autonomy and achievement (McAdams et al., 1996;Adler et al., 2017; Adler, 2012). An agentic individual is a volitional, purposeful, and self-referencing participant when pursuing their goals (Walls & Little, 2005). Agency gradually emerges during the early years of personality

development and allows individuals to grasp that they can intend to do and accomplish a task (Walls & Kollat, 2006). From babies trying to imitate behaviors for a specific outcome to preschool students making goals, personal agency builds from intent to the creation and assessment of the attainability of certain objectives (McAdams & Olson, 2010). This skill develops further by the age of 7 or 8 as children create well-planned aims and see themselves as agents with growing ambitions (Walls & Kollat, 2006).

By emerging adulthood (or late adolescence), agentic individuals, in the narrative perspective, view themselves as protagonists who can influence their lives. This emphasis on the self and its quest for its own betterment is the backbone of the Self-Determination Theory (SDT) (Deci & Ryan, 2000); SDT proposes that individuals have an innate drive to grow psychologically and overcome challenges in their lives. It is theorized that being agentic makes the individual feel satisfaction at being competent because they can overcome their obstacles.

Thus, if the adolescent narrator exudes agency in their life story, they feel competent enough to affect their lives and behave as "themselves", exploring life options freely and committing to values that they think fit them best. In essence, the incorporation of the theme of agency illustrates the positive construction of an adaptive narrative identity, a cornerstone of healthy mental functioning.(van Doeselaar et al., 2020;Schwartz et al., 2005).Conversely, if the individual falls victim to a barrier, the individual's agency decreases and their self-determinative potential is threatened. Thus, they must evaluate what would be the next step to overcome struggling with failure and coping with adversity.

As determined earlier, individuals with psychopathologies, specifically PD, struggle to cope with negative experiences and lack the social support to process these events to relay a positive life story. Consequently, it is unsurprising that preliminary research suggests that

adolescents and adults with PD express lower agency in their narrative identity. Unfortunately, there are few studies that have examined life narratives and their links to personality disorders and fewer studies investigating the development of personality pathology traits and narrative identity (Shiner et al., 2021).

## Current Study

The dearth in the literature regarding the links between personality traits and narrative identity showcases that McAdams and Pals (2006) model of personality has not attracted much attention to broaden current understanding of psychopathology. That is surprising because identity is considered to be one of the crucial domains that is disturbed in people exhibiting psychopathologies, specifically personality disorders, and it is overlooked within the field of personality psychology (Lind et al., 2020). In addition, an approach to integrate personality psychopathology traits and narrative identity could lend insight on the underlying personality mechanisms behind the development of personality disorders in adolescents. Currently, the origins of PDs in youth and adults is not as well investigated as are the pathways of other major psychological disorders (Widiger & McCabe, 2020;Shiner, 2009). Thus, it would be incredibly valuable to investigate the stability of PD traits and symptoms.

To address these gaps in the literature and explore the links between the levels of personality traits and narrative identity in McAdams and Pal's (2006) model of personality, I examine the stability of individual differences across the PID-5 Negative Affectivity domain in Dutch adolescents from ages 14 to 18 years and whether these dispositional traits have a relationship with the theme of agency.

The main questions that guide this study is as follows:

1) How do maladaptive personality traits, specifically the facets of the Negative Affectivity domain, change over the course of adolescence in Dutch teenagers (ages 14-18)?
    a. Using rank-order stability, how stable are individual differences under the Negative Affectivity domain?
    b. Using mean-level analyses, how do the facets of Negative Affectivity change over the course of four years?
2) Within a concurrent model, how do facets of negative affect relate to the themes of agency that arise in narratives?

I suspect that the rank-order stability of the Negative Affectivity facets of the PID-5 will mirror the stability of individual differences of the Neuroticism domain of the Big Five in adolescents. I hypothesize that early adolescence will yield lower rank-order stability in the Negative Affectivity facets. There may be a dip in the correlations during middle adolescence, especially for females, and then, as teenagers form a concrete identity, the relative positions of the Negative Affectivity traits will be lower in late adolescence. As the teenager grows older, I expect higher-rank order stability for the Negative Affectivity facets ($r > .50$) as well as a decrease in scores for these facets.

In addition, because Negative Affectivity is the persistent tendency to experience negative emotionality, I hypothesize that the 8 facets of Negative Affectivity in the Personality Inventory for the DSM-5 (PID-5) (Anxiousness, Emotional Lability, Hostility, Perseveration, (Lack of) Restricted affectivity, Separation insecurity, and Submissiveness) will be negatively associated with the narrative theme of Agency. As individuals start to experience lower Negative

Affectivity as established in the literature, I expect that there will be robust correlations ($r > 0.5$) of the concurrent agency scores and the 8 facets.

## Methods:

### Participants:

The data used for this study is sourced from the Netherlands-based longitudinal study Project Ik (Me) (total N= 1,941). Consisting of four annual waves of data collection (2015-2019), Project Ik followed Dutch adolescents, recruited in their second or third year of study, from seven secondary schools in the southern region of the Netherlands throughout the duration of their secondary education. Dutch secondary education is broadly divided in three tracks: pre-vocational education track (VMBO), higher general secondary education track (HAVO), and preparatory scientific education track (VWO). These tracks will be referred to as the relatively lower, medium, and higher educational levels, respectively. My analyses are focused on the 349 individuals (out of 1,941 participants) who completed the Personality Inventory for the DSM-5 (PID-5) and wrote turning-point narratives on at least two different timepoints across Waves 1 through 4.

Within this sample of 349 participants, the mean age at Wave 1 was 14.7 years (SD = 0.71) and 61.9% of the individuals identified as female. Although all educational tracks were represented in the larger sample, of the 349 individuals used in this study, 42% pursued the medium educational level (HAVO) and 58% pursued the higher educational level (VWO). In terms of ethnic identity, a large majority of adolescents identified as Dutch (93.1%) with a small subgroup using self-chosen ethnic labels. Including those individuals, 1.7% of as Moroccan, 1.1% identified as Surinamese/Antillean, and 0.9% identified as Asian. All other ethnic identities were selected by no more than 0.3% of the sample.

**Procedure:**

The research team approached various secondary institutions in the southern region of The Netherlands, of which, seven schools chose to collaborate. Two weeks before the study began, parents were given the opportunity to opt the child out of the study by returning a letter on Project Me. Trained graduate research assistants then visited participating classrooms to introduce the study to potential participants. If a student showed interest in participating, they would engage in the consent process in which adolescents under 16 years old provided active assent and those 16 years old (and over) consented to the study procedures. At Wave 1, 2,130 adolescents were approached for participation, but 91.2% (1,941) of these targeted individuals and their parents consented to the study. Those who did not participate in the study did so due to absence, lack of parental consent, or because they chose not to. Participants received one class hour (45 or 50 minutes) to independently complete the online questionnaires and write their turning point narratives under the supervision of graduate research assistants. The research assistants were present to provide guidance on the process and answer any questions the participants may have. As a note, participants for Wave 1 were not compensated for their time with an incentive.

Of the 1,941 participants in Wave 1 of Project Me, 50 individuals were not able to complete the questionnaire within the allotted time and they are not included in the analyses for this project. In addition, most of the students completed writing a turning point narrative (n = 1580, 83.6%) and those who did not complete this task (n = 311, 16.4%) either could not think of a turning-point to describe (59%) or did not want to share that event (3%). The remaining 36% of the individuals without a narrative did not provide a reason for not completing the task.

One year after Wave 1, adolescents and caregivers were informed of the longitudinal aspect of Project Me. From Wave 2 onwards, parents were asked to provide passive consent for adolescents 16 years of age or older and active consent for adolescents younger than 16 years old. In addition, starting from Wave 2, participants completed the online surveys and wrote the turning-point narratives independently in their own time. Participants were compensated with 5 euros for participation in Wave 2, 10 euros for Wave 3, and 10 euros for Wave 4. In addition, from Waves 2 to Wave 4, participants from each of the seven schools were incentivized with a raffle to win 50 euros. If participants did not respond to inquiries for a particular wave, they were contacted again a year after unless they requested no further correspondence. For example, adolescents who did not respond at Wave 2 were contacted again for data collection at Wave 3. Also, information on ethnicity was requested after Wave 2. All the procedures performed in Project-Me that involved human participants were in accordance with the ethical standards of the institutional research committee. The local institutional review board of Tilburg University approved Project-Ik (EC-2015.49)

**Measures:**

***Turning point narratives***

To assess narrative identity, participants were asked to write a narrative about an experience which significantly changed their understanding of themselves. Participants were tasked with a description of the turning-point event, when it occurred, who was involved, what did they think or feel at the moment, why the experience was significant, and what this event revealed about them. This narrative task was based on the adolescent adaptation (McLean et al., 2010) of McAdams and Pals' (2006) guided autobiography instructions. The descriptions for the task were translated from Dutch to English by researcher and back translated from English to

Dutch by another to check if the content remained accurate. Participants were not limited in their word count and, if their response included a topic, the turning point narrative was considered complete or present. For example, at Wave 1, the narratives contained an average of 117.53 words (SD = 83.12), ranging from 0 to 372 words. At Wave 2, the narratives averaged 70.24 words (SD = 94.33) with a maximum word count of 532 words. At Wave 3 and 4, average word count is 60.07 words (SD = 92.13) and 65.99 words (SD = 92.37), respectively. These turning point narratives were then coded in three steps for the theme of agency.

### *Narrative Coding*

The coding process for the turning-point narratives was conducted in 3 steps. First, a team of researchers used an existing coding manual (translated this coding manual to Dutch and discussed their implementation for a subset of the narratives. After this discussion, the coding manuals were adapted to fit the current data. Second, research assistants were trained using already coded narratives. Third, two trained coders regularly met after coding a maximum of 50 narratives to discuss divergent codes.

### *Coding Theme of Agency*

Agency is related to how much individuals internalize and reflect upon their actions when engaging in the behavior with a conscious choice. Highly agentic individuals will write turning-point narratives in which they describe themselves to be capable of affecting their lives, initiating changes on their own (Adler et al., 2008), and achieving a greater sense a sense of control.

The turning-point narratives were coded for agency on a 5-point scale (0-4) by a team of researchers. Narratives were coded with a 0 if the protagonist described themselves as powerless and at the mercy of circumstances or if the narratives were not written in the first person. A coding of 1 meant that the narrative showcased a protagonist who was somewhat powerless in

their situation and the situation was governed mostly by external factors. The codes of 0 and 1 both relayed the rating of non-agentic.

For the purpose of Project Me, narratives were rated non-agentic if the turning-point events had a negative influence because not reporting one's role in a positive event was not regarded to be due to a lack of agency. A coding of 2 (neutral) signified that the narratives incorporated agentic and non-agentic elements or lacked information on agency. If a code of 2 is assigned, researchers must write a note that explicitly states their reasoning. Narratives coded with a 3 reflected a somewhat agentic participant. Lastly, the narrative coding value of 4 indicated an agentic participant who is able to affect their own life.

Codes of 3 and 4 were coded as agentic because the participant played an active role in the situation. If a change in agency had occurred within the narrative (i.e., "First, I did not buy a t-shirt because others did not like it, but later I realized it only matters whether I like it and I bought it anyway"), the changed state of agency was coded (See appendix for other codes). Also, an important differentiation was made by the researchers in that an intention to be agentic cannot be coded with a 4, describing a protagonist who is agentic and able to affect their own lives. Rather, a coding of 3 would be more appropriate as the intention is there but the application is not. Once the coding manual was modified and a team of researchers coded for a subset of narratives, research assistants were trained on this procedure. Lastly, the narratives were coded by two trained coders (blind to the hypotheses of the study) who met regularly (after coding 50 narratives) to reach consensus on divergent coding. The interrater reliability will be calculated as a part of the analyses. To make sure that coder drift did not occur (Syed & Nelson, 2015), the coding dyads were changed intermittently. The final score for agency consisted of the average score of the two independent ratings.

***Personality Inventory for DSM-5 (PID-5)***

All participants were asked to complete the Dutch version of the 100-item reduced version of the Personality Inventory for DSM-5 (PID-5), a measure rated on a 4-point Likert scale that ranges from 0 (= very false) to 3 (= very true) (Koster et al. 2020). Any missing values were addressed through the process of imputation (using the expectation maximation procedure). The PID-5 (Krueger et al., 2012) is a measurement that assesses 25 low-level trait pathology facets that are then categorized into five maladaptive trait domains (Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism). This reduced version of the PID-5 contained four items of the original PID-5 per facet as this was determined provide appropriate breadth and granted instrument efficiency (Maples et al., 2015).

This thesis focuses upon the domain of Negative Affectivity which consists of the facets of Anxiousness, Emotional Lability, Hostility, Perseveration, (Lack of) Restricted affectivity, Separation insecurity, and Submissiveness. Because this domain contains these facets that are foils for what mental wellbeing is generally operationalized as, I am investigating their relationship to agency. There are 28 items under this domain such as “I worry a lot about terrible things that might happen” and “I keep approaching things the same way, even when it isn’t working”. Facet internal consistency has been established to overall acceptable and good because 92% of the $\alpha s > .70$ and 68% $\alpha s > .80$ (Koster et al., 2020). The facet of Suspiciousness showed some problematic internal consistency for non-clinical mid- and late adolescents (Cronbach’s $\alpha s < .70$) and has shown poor internal consistency in the past as well (Clercq et al., 2014). This poor and problematic internal consistency is represented within this sample as well for all four waves of data collection (Cronbach’s $\alpha s < .65$). However, the remaining facets of Submissiveness, Anxiousness, Emotional Lability, Perseveration, Lack of Restricted Affect, Separation

Insecurity, Hostility and Depressivity had very good internal consistency ($\alpha s < .87$) across all four waves of data collection.

**Plan of Analysis:**

The current study utilizes a longitudinal model to understand the trajectory of Negative Affectivity personality facets during adolescence in Dutch teenagers as well as a cross-sectional model to study how themes of agency relate to the PID-5 facets of Negative Affectivity. To examine the stability of individual differences of the Negative Affectivity facets, I utilized Spearman correlations to conduct rank-order correlations between time points with 1-year intervals in between. In addition, I conducted repeated-measures ANOVAs to assess mean-level changes in the facets to build a complete image of how facet-level changes manifested in the four waves of data. For my secondary research question, I wanted to investigate if there is a concurrent relationship between narrative themes of agency and each of the 9 facets. To examine if there is a relationship between these concepts, I conducted Pearson's and Spearman correlations between each facet and agency for each wave.

## Results

**Preliminary Analyses**

I investigated the distributional properties of the continuous variables of the PID-5 by creating histograms, P-P plots, and calculating kurtosis and skewness statistics for the 4 waves of data that I analyzed for this project (See Appendix). The histograms illustrating the facets of Negative Affectivity are positively skewed and, all but the facet of Depressivity, have skewness statistics $< |1|$. In addition, the kurtosis statistics of all the facets were $< |1|$ as well, indicating a normal distribution. In comparison to the other facets, Depressivity consistently demonstrates a

positively skewed and leptokurtic distribution (statistics are greater than |1|). Because the sample consists of 349 individuals, the sample is quite large and these slight deviations from normality are not of concern.

Univariate outliers were identified using boxplots, histograms, and z-scores. When analyzing z-scores, I first isolated cases three standard deviations from the mean to find extreme outliers. I also isolated cases according to "gaps" noted both in the histograms and the z-scores (gaps ranged from 0.23-0.65). Generally, for the facets across the waves, there were typically few outliers. However, for the facet of Depressivity, I identified over 10 outliers for Waves 1 and 2. Although I decided to conduct my relevant analyses with the outliers included within the sample, I reconducted my analyses after coding the identified outliers as "missing". I noted trends that were consistent for both analyses and presented those findings in this thesis.

**Rank-Order Stability of Negative Affectivity Facets**

| | | | | Difference in $r_s$ | | |
|---|---|---|---|---|---|---|
| | W1 – W2 | W2 – W3 | W3 – W4 | | | |
| Facets | Time 1 | Time 2 | Time 3 | T1-T2 | T2-T3 | T1-T3 |
| Anxiousness | 0.634** | 0.820** | 0.806** | 0.186 | -0.014 | 0.172 |
| Depressivity | 0.526** | 0.555** | 0.644** | 0.029 | 0.089 | 0.118 |
| Emotional Lability | 0.564** | 0.812* | 0.825* | 0.248 | 0.013 | 0.261 |
| Hostility | 0.705** | 0.763** | 0.700** | 0.058 | -0.063 | -0.005 |
| Perseveration | 0.573** | 0.732** | 0.714** | 0.159 | -0.016 | 0.143 |
| Restricted Affect | 0.631** | 0.766** | 0.723** | 0.135 | -0.043 | 0.092 |
| Separation Insecurity | 0.606** | 0.634** | 0.762** | 0.028 | 0.128 | 0.156 |
| Submissiveness | 0.589** | 0.784** | 0.706** | 0.195 | -0.078 | 0.117 |
| Suspiciousness | 0.558** | 0.759** | 0.739** | 0.201 | -0.02 | 0.181 |

Table 1: Rank-Order Stability of NA Facets Across Waves 1-4 and differences in rs , $p < 0.001$. Outliers excluded.

| | | | | Difference in $r_s$ | | |
|---|---|---|---|---|---|---|
| | W1 – W2 | W2 – W3 | W3 – W4 | | | |
| Facets | Time 1 | Time 2 | Time 3 | T1-T2 | T2-T3 | T1-T3 |
| Anxiousness | 0.654** | 0.827** | 0.819** | 0.173 | -0.008 | 0.165 |
| Depressivity | 0.616** | 0.612** | 0.693** | -0.004 | 0.081 | 0.077 |
| Emotional Lability | 0.581** | 0.822** | 0.84** | 0.241 | 0.018 | 0.259 |
| Hostility | 0.719** | 0.773** | 0.721** | 0.054 | -0.052 | 0.002 |
| Perseveration | 0.576** | 0.737** | 0.721** | 0.161 | -0.016 | 0.145 |
| Restricted Affect | 0.646** | 0.773** | 0.736** | 0.127 | -0.037 | 0.09 |
| Separation Insecurity | 0.619** | 0.639** | 0.772** | 0.02 | 0.133 | 0.153 |
| Submissiveness | 0.598** | 0.787** | 0.708** | 0.189 | -0.079 | 0.11 |
| Suspiciousness | 0.578** | 0.772** | 0.746** | 0.194 | -0.026 | 0.168 |

Table 2: Rank-Order Stability of NA Facets Across Waves 1-4 and differences in rs , $p < 0.001$. Outliers included.

Spearman correlations were calculated to assess rank-order stability of the PID-5 Negative Affectivity facets across adolescence (from 14 to 18 years of age) in Dutch teenagers. Throughout the four waves of data, the rank-order Spearman correlations demonstrated large effects (i.e., >.50). At Time 1, the Spearman correlation coefficients ranged from 0.526 (Depressivity) to 0.705 (Hostility). At Time 2, the correlations ranged from 0.555 (Depressivity) to 0.820 (Anxiousness). Finally, at Time 3, the $r_s$ coefficients ranged from 0.644 (Depressivity) to 0.806 (Anxiousness). All rank-order stability correlations for the complete sample are displayed in Table 2.

To test my hypothesis that the rank-order stability of these traits increases as individuals grow older, I calculated the differences in the correlation coefficients between the three time points. Between Time 1 and Time 2, the $r_s$ coefficients for all the facets of Negative Affectivity increased. The facets of Anxiousness, Emotional Lability, Submissiveness and Suspiciousness demonstrate comparatively large increases (from 0.186 to 0.248) in their respective $r_s$ coefficients. Compared to this group, the facets of Perseveration and Lack of Restricted Affects

showcase modest increases (0.159 and 0.132, respectively) in the rank-order stability between Time 1 and Time 2. Lastly, the test-retest correlations of the facets Depressivity, Hostility, and Separation Insecurity demonstrate increases < 0.05.

Regardless, Emotional Lability as well as the facets of Depressivity and Separation Insecurity continue to exhibit robust test-retest correlations and have higher $r_s$ coefficients at Time 3 than in Time 2. Whereas Emotional Lability and Depressivity show a slight increase in Time 3 (0.013 and 0.089, respectively) the facet of Separation Insecurity demonstrates a modest increase of 0.128 in their test-retest correlation at Time 3. In comparison, the facets of Anxiousness, Hostility, Perseveration, Lack of Restricted Affect, Submissiveness, and Suspiciousness have lower $r_s$ coefficients at Time 3 than Time 2, the decreases in $r_s$ coefficients ranging from -0.078 to -0.014. Whereas the facets of Emotional Lability, Depressivity, and Separation Insecurity consistently increase over the three time periods, Anxiousness, Perseveration, Lack of Restricted Affect, Submissiveness, and Suspiciousness demonstrate modest to large increases between Time 1 and Time 2 and trailing slightly between Time 2 and Time 3. Hostility, on the other hand, presents stable rank-order correlations that are within a 0.65 range throughout the three timepoints. Per Table 2, these trends also hold true for this sample when the outliers are not accounted for.

Regardless, when comparing the $r_s$ coefficients of Time 1 and Time 3, all facets besides that of Hostility exhibit test-retest correlations that are generally higher at Time 3 than at Time 1. In sum, the difference between the $r_s$ coefficients at Time 1 and Time 3 are positive, which indicate increases in rank-order stability of Negative Affectivity facets in later adolescence.

**Mean-Level Changes in Negative Affectivity Facets**

| | Descriptive Statistics | | | |
|---|---|---|---|---|
| Variables | Wave 1<br>M (SD) | Wave 2<br>M (SD) | Wave 3<br>M (SD) | Wave 4<br>M(SD) |
| Anxiousness | 2.04 (.68) | 2.13 (.66) | 2.12 (.69) | 2.09 (.64) |
| Depressivity | 1.34 (.45) | 1.41 (.46) | 1.42 (.47) | 1.44 (.55) |
| Emotional Lability | 1.93 (.69) | 1.94 (.62) | 1.92 (.66) | 1.96 (.67) |
| Hostility | 1.96 (.55) | 1.99 (.55) | 1.91 (.48) | 1.95 (.51) |
| Perseveration | 2.11 (.51) | 2.09 (.54) | 2.10 (.51) | 2.03 (.50) |
| Restricted Affect | 1.98 (.58) | 2.04 (.61) | 1.95 (.57) | 1.99 (.63) |
| Separation Insecurity | 2.12 (.61) | 2.18 (.59) | 2.20 (.59) | 2.18 (.59) |
| Submissiveness | 2.09 (.58) | 2.17 (.52) | 2.15 (.53) | 2.14 (.58) |
| Suspiciousness | 1.66 (.41) | 1.70 (.43) | 1.70 (.44) | 1.66 (.46) |

Table 3: Descriptive Statistics for the 9 NA Facets through 4 Waves of Data. Outliers excluded.

| | Descriptive Statistics | | | |
|---|---|---|---|---|
| Variables | Wave 1<br>M (SD) | Wave 2<br>M (SD) | Wave 3<br>M (SD) | Wave 4<br>M(SD) |
| Anxiousness | 2.07 (.71) | 2.15 (.69) | 2.13 (.69) | 2.14 (.70) |
| Depressivity | 1.44 (.62) | 1.48 (.57) | 1.49 (.58) | 1.51 (.65) |
| Emotional Lability | 1.96 (.72) | 1.97 (.66) | 1.95 (.69) | 2.00 (.72) |
| Hostility | 1.98 (.57) | 2.12 (.57) | 1.93 (.51) | 1.99 (.56) |
| Perseveration | 2.12 (.52) | 2.09 (.54) | 2.11 (.53) | 2.04 (.52) |
| Restricted Affect | 1.99 (.60) | 2.05 (.63) | 1.97 (.59) | 2.02 (.66) |
| Separation Insecurity | 2.13 (.62) | 2.20 (.62) | 2.23 (.62) | 2.20 (.61) |
| Submissiveness | 2.11 (.60) | 2.19 (.54) | 2.15 (.54) | 2.14 (.59) |
| Suspiciousness | 1.67 (.47) | 1.71 (.45) | 1.72 (.46) | 1.68 (.48) |

Table 4: Descriptive Statistics for the 9 NA Facets through 4 Waves of Data. Outliers included

To evaluate mean-level changes in the PID-5 facets of Negative Affectivity, I conducted a repeated measures ANOVA for each of the nine facets. The means and standard deviations of the PID-5 NA facets at each wave is provided in Tables 3 and 4. For all nine facets, Mauchly's

test of sphericity indicated that sphericity had been violated, a common occurrence for large data sets. Thus, the Huynh-Feldt correction was used to evaluate if there were significant differences between means of the facets across the four waves of data collection.

Overall, by noting the means in Tables 3 and 4, there were no overarching trends of changes in the mean that all the facets followed. The means of Anxiousness increased from Wave 1 to Wave 2 but decreased from Wave 2 to Wave 4. However, there differences failed to reach significance. The facet of Depressivity demonstrated an upward trend from Wave 1 to Wave 4 but, the mean increase from 1.34 to 1.41 (from Wave 1 to Wave 2) was significant, $F(1,311) = 3.88$, $p = .05$. The facet of Emotional Lability was mostly stable throughout the four years data was collected. The mean for Hostility, on the other hand, illustrates increases from Wave 1 to Wave 2, decreases from Wave 2 to Wave 3, and increases from Wave 3 to Wave 4. Of the mean changes, the decrease in the Hostility mean between Wave 2 and Wave 3 (from 1.99 to 1.91) is significant, $F(1,335) = 15.55$, $p < .001$.

The facet of Perseveration is mostly stable from Waves 1 to 3 but, in Wave 4, the sample exhibits a significantly lower level of Perseveration, $F(1, 343) = 13.053$, $p < .001$. On the other hand, Separation Insecurity significantly increases from 2.12 to 2.16 in Waves 1 to 2 and stays mostly stable from then on, $F(1, 338) = 14.72$, $p < .001$. The mean for Lack of Restricted Affect is stable between Wave 1 and 2 but, significantly decreases from 2.04 (Wave 2) to 1.95 (Wave 3), $F(1,338) = 14.72$, $p < .001$. Submissiveness and Suspiciousness were noted to be generally stable, according to their means, across the 4 time points.

**Associations Between Narrative Theme of Agency and Negative Affectivity Facets**

| | Wave 1 | | Wave 2 | | Wave 3 | |
|---|---|---|---|---|---|---|
| **NA Facets** | r | $r_s$ | r | $r_s$ | R | $r_s$ |
| Anxiousness | -0.08 | -0.09 | -0.06 | -0.07 | -0.12* | -0.09 |
| Depressivity | -0.01 | 0.06 | 0.01 | 0.02 | -0.10 | -0.08 |
| Emotional Lability | -0.12* | -0.11* | 0.07 | 0.05 | -0.11* | -0.07 |
| Hostility | -0.05 | -0.06 | -0.06 | -0.10 | -0.08 | -0.08 |
| Perseveration | -0.04 | -0.02 | 0.05 | 0.08 | -0.18** | -0.16** |
| Restricted Affect | -0.06 | -0.05 | 0.03 | 0.03 | -0.08 | -0.09 |
| Separation Insecurity | 0.004 | 0.02 | -0.04 | -0.03 | -0.06 | -0.05 |
| Submissiveness | 0.08 | 0.05 | -0.01 | -0.02 | 0.13* | 0.15** |
| Suspiciousness | -0.03 | -0.03 | -0.004 | -0.05 | -0.16** | -0.13* |

Table 5: Associations Between the Narrative Theme of Agency and the PID-5 NA Facets (Waves 1 -3). Outliers excluded. * $p < 0.005$, ** $p < 0.001$.

| | Wave 1 | | Wave 2 | | Wave 3 | |
|---|---|---|---|---|---|---|
| **NA Facets** | r | $r_s$ | r | $r_s$ | r | $r_s$ |
| Anxiousness | -0.08 | -0.09 | -0.07 | -0.08 | -0.12* | -0.1 |
| Depressivity | -0.05 | 0.03 | -0.03 | 0.01 | -0.14** | -0.09 |
| Emotional Lability | -0.12* | -0.11* | 0.07 | 0.05 | -0.09 | -0.06 |
| Hostility | -0.03 | -0.05 | -0.07 | -0.1 | -0.12* | -0.1 |
| Perseveration | -0.05 | -0.03 | 0.05 | 0.08 | -0.19** | -0.17** |
| Restricted Affect | -0.04 | -0.04 | 0.02 | 0.02 | -0.06 | -0.08 |
| Separation Insecurity | 0.02 | 0.02 | -0.05 | -0.03 | -0.06 | -0.05 |
| Submissiveness | 0.09 | 0.06 | -0.02 | -0.02 | 0.12* | 0.15** |
| Suspiciousness | -0.02 | -0.02 | -0.06 | -0.07 | -0.15** | -0.13** |

Table 6: Associations Between the Narrative Theme of Agency and the PID-5 NA Facets (Waves 1 -3). Outliers included. * $p < 0.005$, ** $p < 0.001$.

To investigate if there was a relationship between the PID-5 facets of Negative Affectivity and the narrative theme of Agency, I conducted Spearman and Pearson correlations which are presented in Tables 5 and 6. All the Pearson and Spearman correlations demonstrated small effects (i.e., $r > 0.1$) throughout Waves 1 and 2. At Wave 3, the Spearman and Pearson correlations for the facet of Perseveration start to approach the correlation coefficient of 0.2. This holds true even when outliers are identified and isolated from the sample (Table 5). It should also be noted that, at Wave 3, Submissiveness and Suspiciousness are significantly correlated with the

narrative theme of Agency (albeit small effects). The traits of Perseveration, Submissiveness, and Suspiciousness do not significantly correlate with agency before Wave 3 and have lower correlation coefficients. This may suggest that the negative relationship with these maladaptive personality traits is not as robust in early adolescence as they may be in later adolescence. It is also noteworthy that the trait of Emotional Lability has a weak negative relationship with agency at Wave 1 ($r = -0.12$, $r_s = -0.11$, $p < 0.005$) but this relationship is not significant during Wave 2 and Wave 3.

## Discussion

Often said to begin according to biology and end based on culture, adolescence (ages 11-19) is a transitory period marked by physical, psychological, and social changes as a child moves towards adult status (Steinberg & Icenogle, 2019). The teenager starts to train, in some regards, to be a responsible adult who actively and positively contributes to their respective society. The adolescent's mental health in this transition period should be reflected by the rank-order stability and the mean-level changes of the nine PID-5 Negative Affectivity facets. I assessed the development of Negative Affectivity in adolescence with these two aspects of personality continuity using a 4-year longitudinal design. I also employed a cross-sectional model to investigate if there are any relationships between the narrative theme of agency and the facets of Negative Affectivity.

In general, I found evidence that, in my sample of Dutch adolescents, as the individuals aged, most of the facets of Negative Affectivity demonstrated increasingly more settled interindividual differences and some meaningful mean-level changes. In addition, the correlations of the facets with the theme of narrative agency illustrate very weak relationships (i.e., $r \leq 0.1$). However, the facet of Emotional Lability is significantly negatively related with

agency at Wave 1 but this association becomes less robust over time. In contrast, the facets of Perseveration, Submissiveness, and Suspiciousness exhibit non-significant weak correlations in middle adolescence (as defined by Waves 1 and 2) to become more robust and significant in later adolescence.

**General Changes in Stability of Negative Affectivity**

In the current study, there is evidence that individual differences for the facets within Negative Affectivity described by the Personality Inventory for the DSM-5 became more stable as the individuals grew older (between the ages of 14.7 to 19). Throughout middle and late adolescence, the rank-order stability correlations for the nine facets of Negative Affectivity demonstrated large effects (i.e., >.50). Thus, the current study strongly supports previous research in that individual differences in personality traits become increasingly more set with age as well as my hypothesis (Klimstra et al., 2009; McCrae & Costa, 1994). Interestingly, not all facets of Negative Affectivity continued to increase in stability throughout the four waves of data. In fact, Emotional Lability, Depressivity, and Separation Insecurity illustrate continuous increasing rank-order stability whereas Anxiousness, Hostility, Perseveration, Lack of Restricted Affect, Submissiveness, and Suspiciousness exhibit slight decreases at Time 3 compared to Time 2, seemingly as if they stabilized. The facet of Hostility, unlike all the other facets, demonstrates stable rank-order correlations within a 0.065 range throughout the three timepoints.

In comparison to the personality traits' test-retest correlation estimates presented by Roberts and DelVecchio (2000), the correlation coefficients in this present study are larger than those presented by individuals between the ages of 12 years to 22 years of age. Although Borghuis et al. (2017), also noted a similar deviation from the rank-order stability presented in the 2000 study, the researchers utilized the instrument of the Big Five to investigate the

development of personality traits from adolescence to adulthood. Nevertheless, their study suggested that, because the test-retest correlations did not increase further in late adolescence, early adolescence is a significantly formative period for personality development. In that case, this notion of fluidity could apply to the personality traits of Emotional Lability, Depressivity, and Separation Insecurity such that these traits can still be developing during in late adolescence. In comparison, the personality traits of Anxiousness, Hostility, Perseveration, Lack of Restricted Affect, Submissiveness, and Suspiciousness, based on the degree of change in $r_s$ coefficients within the timespan captured in this study, show an indication that they may reach stability by 18 years of age. The facet of Hostility, on the other hand, possibly exhibits consistency throughout middle to late adolescence as evidenced by the current study. However, to gain a better understanding of the facet of Hostility, it is necessary to track this facet from late childhood to emerging adulthood.

**General Mean-Level Changes**

Although rank-order stability can indicate how individuals may rank themselves on a certain train or characteristic over time, illustrating a stabilization of personality, increases in rank-order stability do not really necessitate that there are no mean-level changes occurred within the respective timeframe. For example, the mean-level of the facet of Depressivity significantly increased between Waves 1 and 2 when the test-retest correlation was > 0.5. Similarly, Perseveration demonstrates a lower mean at Wave 4 than at Wave 3 but, the rank-order stability of Perseveration at Wave 4 is > 0.7.

Thus, my findings are consistent with previous research (Klimstra et al., 2009; Roberts et al., 2006; Roberts & DelVecchio, 2000) in that high rank-order stability and mean-level changes can occur simultaneously. Per the literature, rank-order stability and mean-level changes are two

independent constructs. However, when assessed together, these change indices shed a light on the nature of trait changes and what they may mean. If a mean-level change occurs along with rank-order stability, it is an indication that there is a normative change. On the other hand, if rank-order is stable and there are continued mean level changes, the adolescent is demonstrating growth in that trait at a similar change rate.

This current study suggests that non-clinical adolescents experience normative changes in the facets of Depressivity (mean-level increases in middle adolescence), Separation Insecurity (mean-level increases in middle adolescence), Hostility (mean-level decreases in middle adolescence), Lack of Restricted Affectivity (mean-level decreases in middle to late adolescence), and Perseveration (mean-level decreases in late adolescence). Although facets such as Emotional Lability, Anxiousness, Submissiveness, and Suspiciousness do not demonstrate significant mean-level changes, they start to show slight decreases in test-retest correlations, as if they are reaching stability themselves. However, it would be necessary to continue collecting data to make that conclusion. Regardless, Emotional Lability, Anxiousness, Submissiveness, and Suspiciousness are stable personality traits throughout adolescence, becoming more stable within individuals as they grow older. Although my hypothesis that all Negative Affectivity facets will be at lower positions at Wave 4 was not supported, the facets exhibited both significant mean-level increases and decreases.

For example, the current study's results of the increase of Depressivity in middle adolescence aligns with that of Soto and colleagues (2011). Although they focused on the gender differences of Neuroticism from late childhood to adulthood, Soto et. al. found evidence the facet Depression demonstrated positive trends from late childhood to early adulthood, a finding that my sample supports. This finding is a bit expected as adolescence is a time of change in terms of

physical appearance, self-esteem, and self-consciousness. These aspects of life as well external pressures surrounding peer groups and other social relationships can make individuals susceptible to stress, resulting in sad feelings during adolescence. Also, Soto and colleagues as well other past studies (i.e., Branje et al., 2007) noted gender specific differences which be contributing to the mean-level stability that the trait of Anxiousness, specifically, is exhibiting. Perhaps, if this sample was analyzed according to a binary gender variable, a similar finding could be noted. However, it is important that, in the past decade, the concept of gender has become more complex, and the specific gender identities individuals internalize contribute to significantly different life experiences (Eisenberg et al., 2019). As the global context is changing, the experiences of gender-diverse individuals and their interactions with their peers, family members, and other individuals will also change.

Also related to social relationships, the facet of Separation Insecurity exhibits an interesting increase during middle adolescence. Unfortunately, this facet is not included in and does not have a comparable aspect described in the Big Five taxonomy. Nonetheless, adolescence is when a child becomes independent and starts to have a firmer idea of who they are. Their placement within the family structure changes and an adolescent's contact with their parents may change in duration and frequency (Larson et al., 1996). Moreover, based on the separation-individuation theory of Blos (1967), the adolescent, to some degree, has to distance themselves from their childhood versions of their parents, seeking independence from authority figures (Patterson & Stouthamer-Loeber, 1984). While this distancing occurs, the identity formation process is also occurring. The teenager begins to question the values, rules, and norms that they have inherited from their environments and think of them through hypothetical and abstract lenses, establishing their own identifications (Maslowsky et al., 2011). Thus, it makes

sense that, at a time when individuals are taking on the developmental task of ascertaining who they are, they will fear being excessively dependent on others or of losing their own autonomy (Ferris & Silton, 2017).

Also related to the importance of social relationships, the facet of Hostility demonstrates mean-level decreases in middle adolescence that support my hypothesis of the NA traits being at relatively lower positions than in early adolescence. This facet also demonstrates fairly stable rank-order correlations which possibly indicates that hostility continues to decrease at a steady rate on a cohort level. This decrease can be attributed to the low self-esteem and heightened shame of self that younger adolescents tend experience, probably sparked by the concept of imaginary audience. These feelings of self-doubt and questioning also contributes to feelings of hostility towards other individuals, from peers to parents (Heaven et al., 2009). However, as adolescents start to build meaningful relationships, appropriate less importance to peer perceptions, and have a firmer understanding of themselves, this shame and hostility starts to dissipate.

Additionally, in a classic study, Diener and colleagues (1984) propose that the degree of positive or negative affect that individuals experience depends on the situation and how well the person "fits" in that situation. Hostility, an externalizing trait, is dependent upon the specific environments the individual is interacting within and hostile responses are likely to be reinforced by certain situations or interactions, likely with peers, family, or individuals of authority. The importance of interactions through a social environment is also represented through the PERSOC model, a framework that investigates the complex dynamics between personality and social relationships (Back et al., 2011). Per this framework, hostility could be considered a relational disposition, a trait that characterizes an individual based on specific others who said individual is

interacting with. Thus, because it is situational and reliant on social interactions, an individual's report of hostility is stable.

### Associations with the Narrative Theme of Agency

It was hypothesized that because viewing oneself as agentic is associated with positive mental wellbeing, there would be robust negative associations ($r > 0.5$) between the NA facets and the narrative theme of agency. However, in the current study, there is not much evidence for the association between the facets of NA and the narrative theme of agency. All of the Pearson and Spearman correlations between agency and the nine facets of NA demonstrated small effects (i.e., $r > 0.1$) in middle adolescence. Where Emotional Lability is negatively associated with the theme of agency during middle adolescence, this relationship between these two constructs seem to dissipate even though Emotional Lability was found to be stable in the four years of this study. In addition, the relationship between Perseveration, Submissiveness, and Suspiciousness and agency become robust in late adolescence. Generally, the correlation coefficients for the facets of NA and agency are more robust in late adolescence, regardless of significance, compared to early-middle adolescence. The indication of increasing robustness of the association between agency and the Negative Affectivity facets aligns with the idea that narratives become more integrated and developed throughout adolescence. Per McAdams (2008), narratives increase in importance in late adolescence which may explain the relatively weak and nonsignificant between agency and NA facets in the earlier waves of data collection.

### Strengths and Limitations

The major strength of this current study is that it incorporates qualitative and quantitative data and assesses the development of personality traits using the PID-5, a fairly new instrument

to be used in longitudinal studies investigating adolescents. However, there are a couple of limitations in this study.

First, the sample did not include late childhood and the very early years of adolescence (i.e. ages 10 and 11). Because these years are missing from the sample, a proper replication of the many longitudinal studies investigating mean-level changes and rank-order stability of the Big Five Traits is not possible (Denissen et al., 2011; Durbin et al., 2016; Soto, John, et al., 2011). The omission of early adolescence could have made the comparisons between the existing Big Five literature and this current study more informative as well as illuminated some of the trends that were observed.

Secondly, the current study utilizes 1-year intervals to assess personality trait development. Although many studies in the past have deemed the 1-year intervals as comparatively shorter to what has been done, many life events can occur within a year of an adolescent's life. Considering that some of these events can significantly impact personality, shorter intervals between data collection may grant clearer images of personality development in adolescence. These shorter intervals could also inform researchers on how different stages of life or life events, such as the CITO exam, can immediately impact the stability or relative position of certain traits. The CITO exam is the school leavers' attainment test that students can opt to take in their final year of primary school and this test can influence the type of secondary school track the student pursues. Because it is one of the determinants for the Dutch secondary school system, this test can generate feelings of anxiousness or worry.

Third, the turning point narrative prompt may not properly capture an individual's sense of agency. For this task, participants are told to write a description of an event that has significantly changed them, when it occurred, who was involved, what did they think or feel at

the moment, why the experience was significant, and what this event revealed about them. This turning-point event narrative is dependent on what events are salient to an individual at that time and, perhaps, they are considering an event that has "happened to them". There is no part of the prompt that calls for the participant to recall a moment when they were in charge or when they were actively in a situation that changed them. In addition, this prompt was used for all three waves of data without any windows being specified. Thus, an individual can use the same narrative in Wave 2 and 3 that they wrote about in Wave 1. Lastly, data collection for Waves 2 and 3 did not occur in a controlled research environment such as the school environment in Wave 1. Rather, participants completed all measures, including the narrative prompt, independently outside of school. Depending on the participant, these conditions may yield to shorter responses and environmental distractions from the research materials.

One last limitation would be the non-representative composition of the sample who are predominantly female, ethnically white-Dutch identifying, and of the two higher education tracks within the Dutch educational system. Per the World Bank, in 2017, 49% of students secondary institutions in the Netherlands identified as female on a binary gender questions. In my sample, 61.9% of the participants identified themselves as female. Although the racial make-up of the Dutch educational system was not accessible, in The Netherlands, the Dutch comprise of 74.8%, other Europeans comprise of 6.3%, Turks are 2.4%, Moroccans are 2.2%, Surinamese are 2.1%, and individuals who identify as other ethnic groups are 8.49% of the population. In our sample, a majority of individuals identified as Dutch (93.1%) with 1.7% identifying as Moroccan, 1.1% identified as Surinamese/Antillean, 0.9% identified as Asian, and 0.3% identified as other. Therefore, there is a major issue of representation within the sample. Additionally, there is the fact that 42% of the sample pursued the medium educational level (HAVO) and 58% pursued the

higher educational level (VWO). There is no representation of individuals who were pursuing the vocational track (VMBO).

The underrepresentation of the ethnic minorities in The Netherlands and the VMBO educational track are linked. Typically, those of a lower social class background in The Netherlands follow the lower educational tracks in secondary school (VMBO), are underrepresented in the Dutch university system, and are over-represented in tertiary education (Van De Werfhorst & Van Tubergen, 2007). Based on the secondary effect of social background, there is evidence that individuals from privileged socials background cater towards opting for higher level educational tracks compared to individuals from less advantaged backgrounds. This can be explained by a need to immediately join the labor force or test scores and school recommendations on the pursued educational track for secondary school. It needs to be noted that there is a male majority that also enrolls in the vocational track and that all these individuals are missing in this sample. Their lack not only showcase educational inequity but, also a barrier between these individuals and researchers.

## Conclusion

Despite these potential limitations, this study sheds some light upon the development of facets characterized as Negative Affectivity in the adolescent population. By utilizing the tool of the Personality Inventory for the DSM-5, this study not only provides greater insight on the specific facets of Negative Affectivity but, supports past research on traits related to Anxiousness and Depressivity. The findings of this study, however, indicate that there is a lot more work to be done to understand the development of maladaptive personality traits in terms of replicating existing Big Five literature with more sensitive instruments such as the PID-5. In addition, research also needs to be conducted to start bridging the gap between identity and dispositional

traits. Even though this study did not find strong associations between the facets of Negative Affectivity and the narrative theme of agency, there is some evidence that this relationship becomes robust over time. Agency may not be linked to Negative Affectivity in early adolescence; as individuals become more of "themselves", there is more of a link between this collection of maladaptive personality traits in this sample of relatively higher educated, mostly female, and ethnically Dutch adolescents.

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## Appendix

Table 1: Characteristics of the Sample

| Characteristic | n | % |
|---|---|---|
| Gender | | |
| Female | 208 | 61.9 |
| Male | 128 | 38.1 |
| Educational Track | | |
| VMBO-BASIS | 3 | .9 |
| VMBO-KADER | 8 | 2.3 |
| VMBO-THEORETISCH/MAVO | 17 | 4.9 |
| HAVO | 94 | 26.9 |
| VWO | 214 | 61.3 |

Table 2: Wave 1 Distribution Statistics

| | Wave 1 Descriptive Statistics | | | | |
|---|---|---|---|---|---|
| Variables | M (SD) | Skewness Statistic | SE | Kurtosis | SE |
| Anxiousness | 2.07 (.71) | .551 | .131 | -.264 | .260 |
| Depressivity | 1.44 (.62) | 1.62 | .131 | 2.244 | .260 |
| Emotional Lability | 1.96 (.72) | .761 | .131 | .013 | .260 |
| Hostility | 1.98 (.57) | .449 | .131 | -.228 | .260 |
| Perseveration | 2.12 (.52) | .354 | .131 | .103 | .260 |
| Restricted Affect | 1.99 (.60) | .435 | .131 | -.240 | .260 |
| Separation Insecurity | 2.13 (.62) | .517 | .131 | .140 | .260 |
| Submissiveness | 2.11 (.60) | .040 | .131 | -.253 | .260 |
| Suspiciousness | 1.67 (.47) | .821 | .131 | .657 | .260 |

Figure 1: Boxplots for All Facets of Negative Affectivity for Wave 1

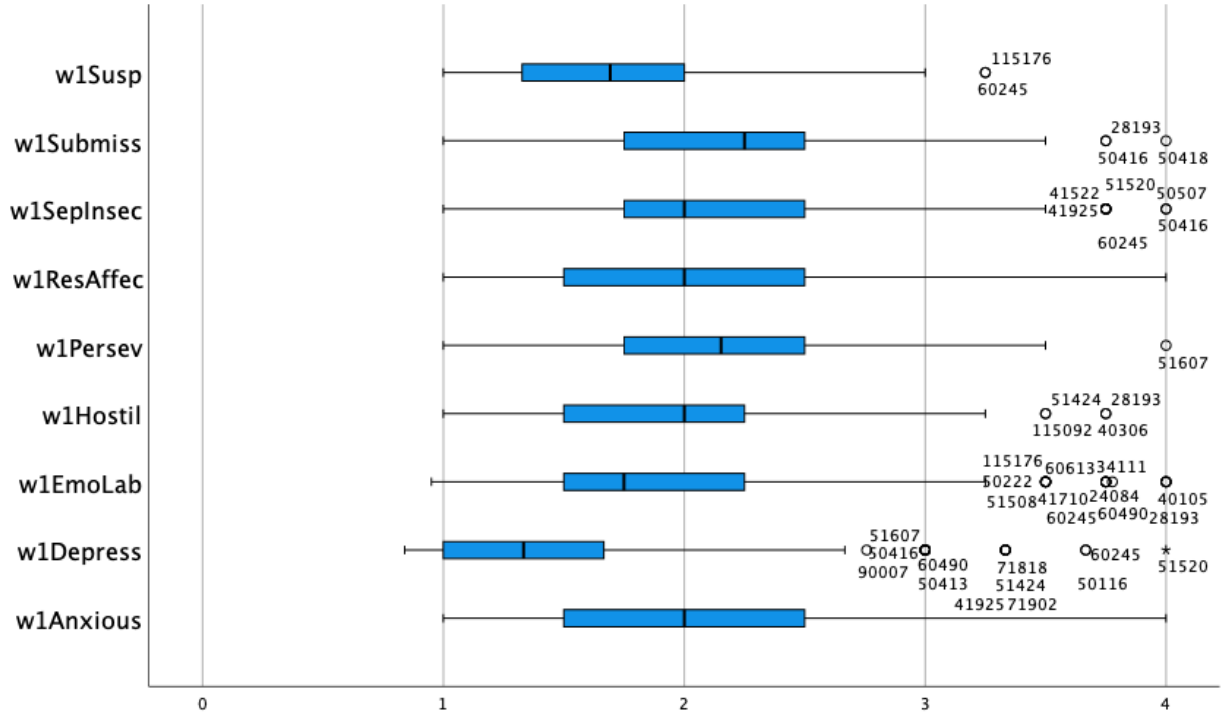


Table 3: Wave 2 Distribution Statistics

Wave 2 Descriptive Statistics

| Variables | M (SD) | Skewness Statistic | SE | Kurtosis | SE |
|---|---|---|---|---|---|
| Anxiousness | 2.15 (.69) | .473 | .131 | -.239 | .260 |
| Depressivity | 1.48 (.57) | 1.36 | .131 | 1.720 | .260 |
| Emotional Lability | 1.97 (.66) | .517 | .131 | -.087 | .260 |
| Hostility | 2.12 (.57) | .516 | .131 | .198 | .260 |
| Perseveration | 2.09 (.54) | .250 | .131 | -.279 | .260 |
| Restricted Affect | 2.05 (.63) | .383 | .131 | -.277 | .260 |
| Separation Insecurity | 2.20 (.62) | .468 | .131 | .013 | .260 |
| Submissiveness | 2.19 (.54) | .165 | .131 | -.047 | .260 |
| Suspiciousness | 1.71 (.45) | .543 | .131 | .020 | .260 |

Figure 2: Boxplots for All Facets of Negative Affectivity for Wave 2

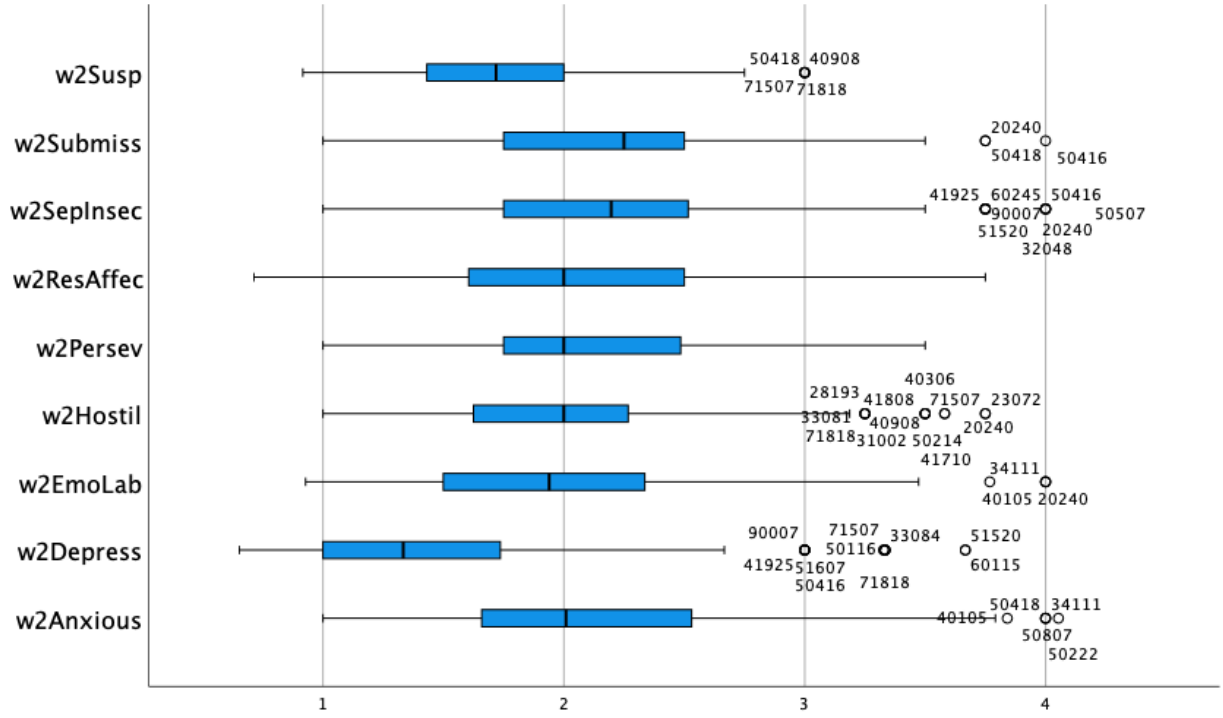


Table 4: Wave 3 Distribution Statistics

| | Wave 3 Descriptive Statistics | | | | |
|---|---|---|---|---|---|
| Variables | M (SD) | Skewness Statistic | SE | Kurtosis | SE |
| Anxiousness | 2.13 (.69) | .352 | .131 | -.580 | .260 |
| Depressivity | 1.49 (.58) | 1.37 | .131 | 1.81 | .260 |
| Emotional Lability | 1.95 (.69) | .718 | .131 | .139 | .260 |
| Hostility | 1.93 (.51) | .531 | .131 | .482 | .260 |
| Perseveration | 2.11 (.53) | .179 | .131 | .019 | .260 |
| Restricted Affect | 1.97 (.59) | .397 | .131 | -.010 | .260 |
| Separation Insecurity | 2.23 (.62) | .463 | .131 | .276 | .260 |
| Submissiveness | 2.15 (.54) | .137 | .131 | -.196 | .260 |
| Suspiciousness | 1.72 (.46) | .444 | .131 | -.188 | .260 |

Figure 3: Boxplots for All Facets of Negative Affectivity for Wave 3

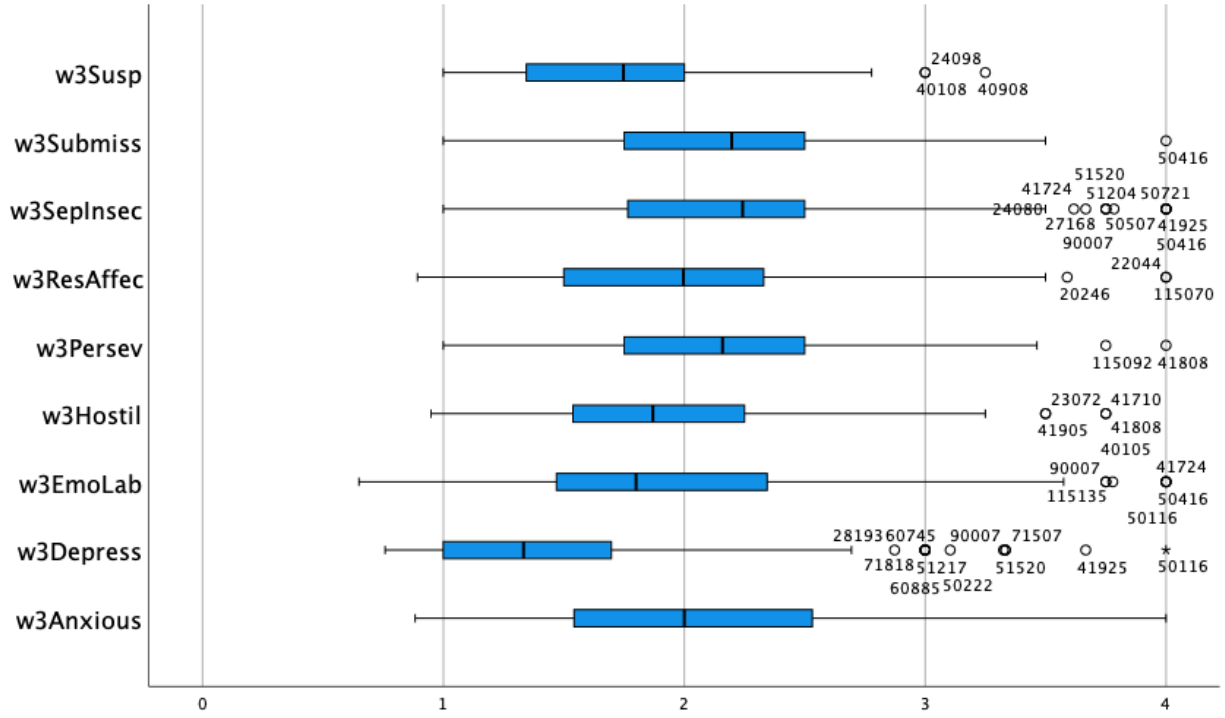


Table 5: Wave 4 Distribution Statistics

Wave 4 Descriptive Statistics

| Variables | M (SD) | Skewness Statistic | SE | Kurtosis | SE |
|---|---|---|---|---|---|
| Anxiousness | 2.14 (.70) | .702 | .131 | .071 | .260 |
| Depressivity | 1.50 (.64) | 1.51 | .131 | 2.00 | .260 |
| Emotional Lability | 2.00 (.72) | .768 | .131 | .220 | .260 |
| Hostility | 1.99 (.56) | .525 | .131 | .456 | .260 |
| Perseveration | 2.04 (.52) | .179 | .131 | .019 | .260 |
| Restricted Affect | 2.02 (.66) | .543 | .131 | .162 | .260 |
| Separation Insecurity | 2.20 (.61) | .331 | .131 | -.053 | .260 |
| Submissiveness | 2.15 (.59) | .074 | .131 | -.334 | .260 |
| Suspiciousness | 1.67 (.48) | .669 | .131 | .210 | .260 |

Figure 4: Boxplots for All Facets of Negative Affectivity for Wave 4