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Psychological functioning in non-clinical young adults:

Protective and risk factors for internalizing symptoms

Il funzionamento psicologico in giovani adulti non clinici:

Fattori di protezione e fattori di rischio nei confronti di sintomi internalizzanti

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PART I

CHAPTER I

1. Personality and Personality psychology

The study of personality is based on the essential insight that all people are similar in some ways, yet different in others (Phares, 1991; Phares, & Chaplin, 1997). *"Because the same individual behaves differently in different occasions, an individual's behavior over time forms a distribution; (...) the central proposal is that the entire distribution and its several components are relevant to-and to be explained by- personality psychology"* (Fleeson, 2001).

The goal of personality psychology is to understand the unique and consistent elements that characterize human behavior, and to evaluate similarities and differences between individuals. The study of personality focuses on understanding individual differences, AND in particular personality characteristics, and how the various parts of a person come together as a whole (Kazdin, 2000). In fact, personality psychology aims to explore how people come to be who they are, how they differ from each other with regards to how they think, experience feelings, and relate to one another, all elements that exert an important influence upon their behavior (Wilt, Oehlberg, & Revelle, 2010).

The term "Personality" has its roots in the era of ancient Greece, where the word was used to indicate the theatrical masks that actors used to take on A role. On the contrary, the word "person" comes from Latin, and it is composed of "In" and "dividuus", which together mean "non-divisible", "unique".

However, from a theoretical point of view the concept of personality is very complex. Many different definitions and study approaches to personality have been proposed.

The study of personality has a broad and varied history in psychology with an abundance of theoretical traditions.

Among these, Psychoanalytic theories (e.g., Freud 1938), Behaviorist theories (e.g., Skinner, 1938), Social cognitive theories (e.g., Bandura, 1986), Humanistic theories (e.g., Maslow, 1943; Rogers, 1951), Trait Theory (e.g., Allport, 1937), each one was based on different starting assumptions.

1.1 Personality trait theory: Domains and Facets. One of the most important theories in personality psychology is Trait theory. Traits are innate biologically founded dispositions, they are stable over time and are shown directly through behavior (Kassin, 2003).

However, besides supporting the idea of a biological basis for personality and behavior, Trait theory also recognizes the impact that the environment may exert on individuals' behavior.

Following this perspective, personality includes relatively permanent traits and individual characteristic patterns of thoughts, feelings, social adjustments, and behaviors.However, Trait Theory approach also recognizes the possibility for personality traits to show some degree of change, recognizing the role of environment and social relationships in influencing and organizing individuals' behavior in dynamic ways over time (Caspi & Shiner, 2006). That is, traits can change over time and show some degree of situational specificity (McAdams & Pals, 2006), that makes personality adjustable to different life circumstances and challenges (Wilt, Oehlberg, & Revelle, 2011).

This makes possible to distinguish between temperamental traits and personality traits. *Temperamental traits* are distinctive and consistent behaviors that appear in the early years of life, which are assumed to depend solely on genetic and physiological bases. On the other hand, *personality traits* are found in adulthood, and consist of a broader range of consistencies, which are supposed to be the result of the interaction between genes and environmental factors, that is, social experiences. However, the process through which temperamental core is elaborated into personality dimensions is rather unclear (Caspi, Roberts, & Shiner, 2005). Most research studies stress the importance of both genes and environment in personality development (Lewis, 2001; Rothbart, Ahadi, & Evans, 2000; Shiner & Caspi, 2003). Empirical studies have supported a substantial genetic contribution to personality (Bouchard & Loehlin, 2001; Krueger & Johnson, 2008; Saudino, 2005; Shiner & DeYoung, 2011), which is in line with the idea of a temperamental origin of personality.

Important thread of research in personality psychology has been devoted to understanding and tapping the dimensions underlying individual differences in personality ''traits''. There has been considerable controversy regarding the number (e.g., Block, 1995; Eysenck, 1991), definition (e.g., Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993), and stability (e.g., Mischel, 1969; Pervin, 1994) of such traits as well as whether the trait concept is to be understood as

explanatory of personality functioning (e.g., motivation; McCrae & Costa, 2008) or as merely descriptive (e.g., consistency in functioning; Hogan & DeSoto, 1977; Pervin, 1994).

Factor analysis showed particular clusters of traits to be reliably correlated each other, with some points of convergence between various temperament and personality structural models.

1.2 Models of personality traits: The most common models of traits incorporate three to five broad dimensions or factors. All trait theories incorporate at least two dimensions, extraversion and neuroticism. This last IS also intended as emotional instability that WAS historically featured in Hippocrates' humoral theory (Aluja, García, & García, 2004).

Gordon Allport (1937) delineated different kinds of traits, or dispositions, distinguishing between Central traits, which are basic to an individual's personality, and secondary traits, that are more peripheral to personality. Common traits are those recognized within a culture and thus may vary from culture to culture. Cardinal traits are those by which an individual may be strongly recognized.

Eysenck (1952) applied to the study of personality the classical conditioned reflex mechanism developed by pavlov (1951–1952). In 1957, he published a causal theory of personality, incorporating Pavlov's concepts of excitation–inhibition and mobility: introversion–extraversion was aligned with the processes of excitatory and inhibitory processes, respectively, and neuroticism was aligned with mobility. These two dimensions have a strong temperamental loading, and they are related to both emotional levels and activity, which seem to be present from the first days of life (Buss & Plomin, 1984; Strelau & Zawadzki, 1997).

Eysenck (1967, 1970) integrated the theory based on the identification of Neuroticism and Extraversion, also proposing a biological basis of these personality dimensions, and developing a third basic dimension of personality called Psychoticism (Eysenck & Eysenck, 1976), which the author used in order to extend the two factor model of extraversion and neuroticism. Psychoticism is a personality dymension of a temperamental nature which differs from Extraversion and Neuroticism and which would be closer to the domain of character (Strelau & Zawadzki, 1997) usually defined by a lack of empathy, cruelty, impulsiveness, hostility, aggressiveness, emotional indifference, socialisation deficit and psychopathy (Eysenck, 1992a), (Aluja, 1999; Aluja & Torrubia, 1998).

Thomas and Chess (1977), conceptualized temperament as the stylistic component of behavior. They focused on behavioral style—the variations in how children display their behavior, presuming that such differences would have, in part, an endogenous biological basis, given their emergence early in infancy. Thomas and Chess's list of temperament traits included nine dimensions (Thomas & Chess, 1977; Thomas et al., 1963) and they were chosen FOR identifying traits with likely impact on later functioning.

In contrast to Thomas and Chess's focus on traits appearing in infancy, Buss and Plomin chose to focus their temperament model on childhood traits that were likely to be apparent from infancy through adulthood (Buss & Plomin, 1975, 1984; Goldsmith et al., 1987), which were substantially heritable and relatively stable over time, even in childhood. in their model (the easi model), they identified four traits: *emotionality* (focused on negative emotions, first undifferentiated distress and later both fear and anger), *activity*, *sociability*, *impulsivity*, and shyness. ALTHOUGH IT leaved out some traits that could be reasonably considered temperamental in nature, THE EASI MODEL UNDERLINED the importance of understanding traits that appear both early and later in life and identified some of the most important traits that appear across models.

Rothbart's work highlighted important higher-order traits that showED clear conceptual links with personality traits observed in children and adults. Rothbart's theoretical model of temperament often guides current research on temperament. Rothbart argued that temperament traits consist of differences in reactivity and self-regulation which are both constitutional and influenced by heredity, maturation, and experience (Rothbart & Derryberry, 1981). According to this view, new temperament traits emerge over time as children mature. Rothbart and colleagues developed questionnaire measures to assess temperament from infancy to adulthood (Putnam, Ellis, & Rothbart, 2001), also taking in consideration previous temperament models (including the Thomas and Chess and *Buss and Plomin* models). Rothbart also obtained evidence for a five adolescent and adult temperament factors model - Negative Affect, Orienting Sensitivity, Extraversion, Affliation, and *Effortful Control*, which correspond closely to the Big Five (Evans & Rothbart, 2007; Rothbart & Bates, 2006).

Cattell proposed a personality structure with 16 primary *Personality Factors* and five *secondary factors*. Personality allows to *predict what a person will do in a given situation*, while many psychologists currently propended more for a five factor hypothesis (Costa, & McCrae, 1992).

Kagan's (2008) argued for a narrower definition of temperament, suggesting that a temperamental heritable neurochemical and biologically based foundation for feelings and actions appears during early childhood. Kagan focused on a predisposition toward high or low reactivity to novel or unfamiliar situations (Kagan, 2008; Kagan & Fox, 2006), that revealed long-term outcomes and was expressed as the tendency to withdraw and express fear in the face of stressful novel situations (Fox, Henderson, Marshall, Nichols, & Ghera, 2005; Kagan, Snidman, Kahn, & Towsley, 2007).

Similarly to Rothbart, in his model of personality, Cloninger (1987; Cloninger, Svrakic, & Przybeck, 1993) distinguishes between four temperament traits (Novelty Seeking, Harm Avoidance, Reward Dependence, and Persistence) and three character traits (Self-Directedness, Cooperativeness, and Self-Transcendence) IN ADULTS.

1.3 The Big Five Model from Childhood Through Adulthood. After this short overview about personality trait theories, it is important to cite the Five-Factor Model, that is one of the most influential theories of personality. The model consists of 5 broad personality traits or factors that were identified through factor analyses of trait-descriptive terms across a variety of studies (neuroticism, extraversion, agreeableness, conscientiousness, openness to experience), each with 6 subcomponents or "facets" (John et al., 2008). Extraversion reflects surgency, energetic and positive emotions, and the active seeking, instead of avoiding, the company of others. Agreeableness reflects the tendency to be empathetic and cooperative towards others, rather than suspicious and antagonistic. Conscientiousness captures socially prescribed impulse control, the tendency to act in task- and goal-directed ways, and to be able to delay gratification. Neuroticism reflects negative affect such as anger, anxiety, and sadness, as opposed to emotional stability. Openness to experiences refers to complexity and quality of a person's mental and experiential life, reflecting appreciation for creativity, and experience (John et al., 2008; Shiner & Caspi, 2003).

Between various models and methods, there is considerable convergence about the core set of the Big Five traits development across the lifespan (shiner & DeYoung, 2011). Questionnaire, observational, and lab task studies all yield a set of temperament traits that show conceptual and empirical relationships with many of the Big Five traits (Caspi & Shiner, 2006; Mervielde & Asendorpf, 2000; Zentner & Bates, 2008). Deriving from decades of empirical personality research (Costa and Mc- Crae, 1992; Widiger et al., 2002), across many different cultures, the Five-Factor is the most established model of personality structure, though deviations in the number and meaning of the factors sometimes occur (Digman, 1990; John, Naumann, & Soto, 2008; McCrae et al., 2005; McCrae & Costa, 1997, 2008).

The five personality domains of the FFM have been found to represent the basic structure behind all personality traits (O'Connor & Brian, 2002), also providing a rich conceptual framework for integrating other research findings and theory in personality psychology. However, the Big Five model of personality also received some critics, with regards to the "true" number of factors and to the lack of theoretical underpinning for the 5 factors, which could be represented by a larger number of underlying factors. Trait models have been criticized for leading to oversimplified classifications based on a superficial analysis of personality, underestimating the effect of specific situations on people's behavior.

Summarizing the previous list of trait models it appears that (a) although there is a nearly unlimited number of potential traits that could be used to describe personality, literature focused just on a limited number of personality traits; (B) results from literature are not always homogeneous with regards to number and specific traits to identify and underline, (c) some personality researchers argue that this list of major traits is not exhaustive.

Critics also underlined that factors were chosen only because of statistical reasons (Eysenck, 1992). Trait Theory approach usually uses self-report personality questionnaires as instruments of assessment. A common approach (Cattell, 1943; Fiske, 1949; Goldberg, 1990) was to use factor analysis in order to explore the overarching structure of potential trait-descriptive terms, that were individuated adopting the lexical hypothesis (e.g., John, Angleitner, & Ostendorf, 1988), reducing their number to a number of factors which can be grouped together under separate headings, called dimensions, and to further identify broad, "second-order" factors. Even if this systematic methodology was applied, trait theories did not reported consistent results, highlighting different trait dimensions (e.g., Barrett & Kline, 1982; Rossier, Meyer de Stadelhofen, & Berthoud, 2004). Consequently, other critics stated that traits were considered to be statistical generalizations that do not always correspond to an individual's behavior. Many studies have confirmed that in predicting actual behavior the more numerous lower-level traits are more effective, supporting a more detailed approach to personality assessment, beyond the measurement of major personality traits (e.g., Mershon & Gorsuch, 1988; Paunonon & Ashton, 2001).

Besides statistical aspects underlined by Trait Theory approach, more recent research highlighted dimensional nature of personality, suggesting the need to extend the perspective to the whole range of personality functioning,

focusing on the continuum normality-psychopathology, but also on the possible relationship that is possible to investigate between personality and other features of individual adjustment and functioning, like internalizing symptoms, interpersonal skills, emotions, and attachment.

Trait theory was developed as a descriptive system for normal personality (Morey, Skodol, & Oldham, 2014). Some authors also underlines that traits are bipolar; they vary along a continuum between one extreme and the other (Feist & Feist, 2009). Polarity is related to the issue of range, that is, whether both extremes of a trait distribution are associated with pathology (e.g., Krueger et al. 2012; Livesley & Jackson 2009; Markon et al. 2005; Samuel & Widiger 2008). In particular, when personality traits are expressed in their extreme pole, and also are rigid and inflexible insomuch as they produce subjective distress and compromise daily life interpersonal and professional functioning, personality disorders occur (Coker, Samuel, and Widiger, 2002; Sperry, 2000). This phenomenon is evident from early adulthood and persists for the most part of life (Sperry, 2000).

Personality traits are also strongly related to personality disorders (Bagby, Sellbom, Costa & Widiger, 2008; Jensen-Campbell et al., 2002; Mehl et al., 2006; Paunonen & Ashton, 2001), with growing number of studies supporting a dimensional perspective for personality disorders, as representing maladaptive variants of normal personality traits (Haigler and Widiger 2001; O'Connor, 2005;Samuel DB, Widiger, 2008; Trull et al, 2013; Widiger, Trull, 2007).

Finally, given complexity of personality as a construct, some authors stressed that personality traits represent just one of the many possible features involved in the general frame of individual personality, and that, moreover, traits should be better inserted in a more general approach to the study of personality, which includes also other aspects of functioning, like interpersonal skills. Some authors suggests, for example, that a comprehensive personality assessment should follow a dimensional model of personality functioning (O'Connor & Dyce, 1998; Skodol, Bender, Morey, Alarcon, et al., 2011), consisting of four components: levels of personality functioning, personality disorder types, (pathological) personality trait domains and facets, and general criteria for personality disorder.

1.4 Questionnaires approach in personality assessment. *Objective tests* assume personality is consciously accessible and that it can be measured by self-report questionnaires, that are generally found to be more valid and reliable compared to other instruments, like projective tests.

One of the advantages of questionnaires approach lies in the possibility of collect a large number of information, albeit possible limitations related to imprecision and social desiderability in answering questions, which are determined by the response style of subjects, such as the lack of understanding of the items or the desire to keep some hidden aspects of the self (Cervone & Pervin, 2008; Fleeson, 2001).

Anyway, questionnaire approach has also many other advantages, in particular when they are used with adult samples. Adults are assumed to possess insights into their typical thoughts, behaviors, and feelings. Self-report questionnaires are used in part because they are inexpensive and easy to administer, but they also allow to collect a large number of information, albeit with the limitation that these information can be characterized by imprecision in answering questions, which is determined by the response style of subjects, such as the lack of understanding of the items or the desire to keep some hidden aspects of the self (Cervone & Pervin, 2008; Fleeson, 2001). Questionnaires aggregate information about behavior across a number of situations and over a period of time; they efficiently gather a lot of information about a wide variety of traits; and they can solicit information about relatively rare but important behaviors. Self-report may be more useful compared to informant reports, when assessing traits that are less evaluative or traits that involve highly subjective, personal experiences that are also difficult for informants to assess (e.g., Vazire, 2010). Also, individuals do not need to have insight into their behavior for their self-reports to be useful, since self-report constitutes a sampling of behavior from an individual being assessed (krueger & markon, 2013; Meehl 1945/2000).

It is clear nowadays that scores on trait inventories are highly reliable, even across the lifespan (McCrae & Costa, 2003), and are highly valid, predictive of positive and negative emotions, life satisfaction, marital satisfaction and stability, career success, work-family conflict, and even length of life (Ozer & Benet-Martinez, 2006).

It would be important, anyway, to have questionnaires that allow to assess also pathological extremes of personality functioning. Since most existing FFM questionnaires have been developed for the study of general personality functioning (De Raad & Perugini, 2002) rather than being concerned specifically with the maladaptive personality traits, they might not provide adequate fidelity for the assessment and description of the maladaptive variants

of personality traits (e.g., Ball et al., 1997; Bornstein & Cecero, 2000; Yeung, Lyons, Waternaux, Faraone, & Tsuang, 1993).

1.5 Gender differences in personality traits. The psychology of human males and females is marked by a complex pattern of similarities and differences in cognition, motivation, and behavior (Del Giudice, Booth, & Irwing, 2012). The scientific debate on gender differences in personality traits ranges from claiming that gender differences are close to zero (Hyde, 2005) to the view that they have been obscured by methodological limitations and are actually very large (Del Giudice, Booth, & Irwing, 2012), and a variety of positions in between (Lippa, 2006; vianello et al., 2013). Women consistently report higher Neuroticism, Agreeableness, extraversion, and conscientiousness and openness to feelings, and men often report higher assertiveness (a facet of extraversion) and openness to ideas (Chapman,Duberstein, Sörensen, & Lyness, 200; Costa, P.T. Jr.; Terracciano, A.; McCrae, 2001). More precisely, women and men differed in facets of general traits in which they showed higher scores. Because Extraversion combines aspects of dominance and nurturance (McCrae & Costa, 1989), gender differences in Extraversion vary by facet, with men higher in Assertiveness and women higher in Warmth. Men scored higher in some facets of Extraversion such as Excitement Seeking, while women scored higher in other Extraversion facets, such as Warmth. Other facets-specific gender differences were find for men, who scored higher in some facets of Openness, such as Openness to ideas, while women scored higher in facets of Openness to Aesthetics and Feelings.

Gender differences were also evidenced for Dominance and Warmth, that are the axes of the Interpersonal Circumplex. Dominance and Warmth have been shown to be rotations of the FFM dimensions of Extraversion (E) and Agreeableness (McCrae & Costa, 1989); that is, E combines dominance and warmth, whereas A combines submission and warmth. Men scored higher on Assertiveness, women slightly higher on Warmth (Costa, Terracciano e McCrae, 2001; Feingold, 1994). Women in most cultures were higher than men in Warmth, Gregariousness, and Positive Emotions, but lower in Assertiveness and Excitement Seeking. These associations are predictable from the placement of these traits within the Interpersonal Circumplex (McCrae & Costa, 1989). Women tend to be higher in negative affect, submissiveness, and nurturance, and more concerned with feelings than with ideas. Men were found to be higher in assertiveness.

Three main theoretical accounts might explain these differences. A first model posits that gender differences are a measurement artifact (Feingold, 1990). In this view, gender differences in personality traits are an expression of social desirability rather than differences in the ‘‘real’’ trait (Feingold, 1994), but men and women do not actually diverge. Anyway, the artifact account is weakened by the fact that both self-report and behavioral observation data provide similar patterns of gender differences (McCrae et al., 2005). Moreover, effect sizes for sex differences in anxiety, hostility and conscientiousness ranged between d = .34 and d = .58 both when assessed by implicit and explicit measures.

Beside the artifact model, results suggest that gender differences have been constantly observed in self-reported personality traits. Other two classes of theories, biological and social psychological, have tried to explain these gender differences in personality traits.

According to the social role model approach (Eagly, 1987), gender differences derive from shared social expectations of how men and women should think, feel and behave. Gender roles are internalized very early in life through socialization processes, and they both shape personality traits and trait-relevant behavior. According to this view, gender differences in personality derive from modeling by others and differential feedback about appropriate and desirable behavior to males and females. The social role model (Eagly, 1987) explains that most gender differences result from the adoption of gender roles, which define appropriate conduct for men and women.

Thus, social psychological theorists argue for more proximal and direct causes of gender differences.

Social Role Theory (Eagley, 1987) also held potential usefulness for understanding gender differences in Neuroticism and Agreeableness (Costa et al., 2001; McCrae, et al., 2005).

At the other end of the theoretical spectrum, the biological theories consider sex-related differences as arising from innate temperamental differences between the sexes, evolved by natural selection. Evolutionary psychology (Baron-Cohen, 2003; Buss, 1995) have emphasized how divergent selection pressures on males and females are expected to produce consistent – and often substantial – psychological differences between genders (Buss, 1995; Geary, 2010; Davies & Shackelford, 2008, Schmitt, Realo, Voracek, & Allik, 2008). Evolutionary psychologists ascribe gender differences in personality traits to innate sex dispositional differences. In this model, sex differences stem from the

different adaptive challenges that men and women faced throughout hominid history. For example, women are more agreeable and nurturing because in previous ages this behavior favored the survival of their children, which in turn provided this disposition with an evolutionary advantage over other trait-related behaviors. At the same time, this behavior was adaptively irrelevant for men because they spent less time nurturing their children. The social role model suggests that gender differences are internalized. These explanations point to hormonal differences and their effects on mood and personality, and to sex-linked differences in genetic predispositions to psychopathology.

By the logic of sexual selection theory and parental investment theory (Kokko & Jennions, 2008), large sex differences are most likely to be found in traits and behaviors that ultimately relate to mating and parenting, in which males and females have consistently faced different adaptive problems. In addition to their direct influences on mating processes, personality traits correlate with many other sexually selected behaviors, such as status-seeking and risk-taking (see e.g., (Ashton MC, Lee K, Pozzebon JA, Visser BA, Worth NC (2010), Nettle D (2007). Thus, in an evolutionary perspective, personality traits are definitely not neutral with respect to sexual selection. Instead, there are grounds to expect robust and wide-ranging sex differences in this area, resulting in strongly sexually differentiated patterns of emotion, thought, and behavior – as if there were ‘‘two human natures’’ (Davies & Shackelford, 2008).

2. Personality Traits and Personality Disorders

Although relatively less attention has been paid to the role of personality traits in understanding common mental disorders and other clinical issues (**hopwood et al., 2013**), there is nevertheless considerable evidence regarding the importance of considering traits for general clinical assessment (Kotov, Gamez, Schmidt, & Watson, 2010; Samuel & Widiger, 2008). Evidence for the association between traits and personality disorders and the benefits of reorganizing aspects of personality disorders using trait concepts is now strong (Markon, Krueger, & Watson, 2005; Morey, 2007; Samuel & Widiger, 2008; Widiger & Simonsen, 2005; Widiger & Trull, 2007; Wiggins & Pincus, 1989).

2.1 DSM5 dimensional model. There is considerable convergence in theoretical accounts and empirical research on the potential clinical utility of a severity dimension of personality pathology (Bender, Morey, & Skodol, 2011; Blatt & Auerbach, 2003; Dimaggio, Semerari, Carcione, Procacci, & Nicolo, 2006; Fonagy & Target, 2006; Huprich & Greenberg, 2003; Kernberg & Caligor, 2005; Levy et al., 2006; Piper, Ogrodniczuk, & Joyce, 2004; Hopwood et al., 2013).

The potential advantages of a categorical-dimensional hybrid had been noted repeatedly in literature (Krueger et al., 2007; McGlashan et al., 2005) and in revising the PDs for Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-V), the Work Group sought to develop such a model to improve upon the DSM-IV–TR approach.

One proposal for the DSM-V was to treat the personality syndromes as continua rather than discrete categories (Oldham and Skodol, 2000; Skodol et al., 2005). The Work Group’s proposal for the DSM-V then consisted of dimensional assessment of: (a) global impairment in personality functioning, (b) pathological personality traits, and (c) specific PDs, defined by disorder-specific patterns of impaired functioning and by disorder specific pathological personality traits. In this way, DSM-V also revealed concerns regarding clinical utility, suggesting a clear need for dimensional models to be developed and for their utility (Haslam, Holland, & Kuppens, 2012; Finn, Arbisi , Erbes , Polusny, & Thuras, 2014; Gunderson et al., 2011; Kotov et al., 2011; Krueger, Eaton , Clark, Watson, Markon, Derringer, Skodol, Livesley, 2011; Morey, 2007; Morey et al. 2012; Verheul & Widiger, 2004; Zimmerman et al., 2012).

Various features such as identity issues, interpersonal relatedness deficits, low self-worth, and low self-direction appeared to differentiate levels of personality pathology. In most instances, these indicators tended to vary quantitatively more than qualitatively at different levels of severity (Morey, Berghuis, Bender, Verheul, Krueger, & Skodol, 2011). The markers that differentiated milder forms of personality pathology addressed primarily self and identity issues, whereas interpersonal issues (in addition to self-pathology) become discriminating at the more severe levels of personality pathology (Morey, Berghuis, Bender, Verheul, Krueger, & Skodol, 2011),

It is possible to identify a global dimension of personality pathology that is significantly associated with important functions related to self (e.g., identity integration, integrity of self-concept) and interpersonal (e.g., capacity for empathy and intimacy) relatedness—features (Bender et al., 2011; Livesley, 2003; Kernberg & Caligor, 2005; Morey et al., 2010).

2.2 Distinguishing the DSM-5 Trait Model from the DSM-5 Section III PD Model: Self and interpersonal functioning in personality. One persistent theme of DSM critiques has involved the failure to account for systematic individual common dimensions in personality that could underline diverse personality disorders symptoms (Hopwood et al., 2013). Morey and colleagues (Morey, Berghuis, Bender et al., 2011), highlighted that commonalities among personality disorders were reflective of a general level of personality functioning. Morey and colleagues sought to identify key markers of such a level, thought to reflect a continuum of personality pathology consisting of impairments in personality pathology involving impairments in the capacities of self and interpersonal functioning, providing an empirical foundation for a "**levels of personality functioning**" rating proposed as part of a *DSM–5* personality disorder diagnostic formulation.

The Levels of Personality Functioning continuum offer a means of assessing the severity of personality psychopathology, through a scale based on mental representations of self and others. Bender, morey and skodol (2011) consider a representative group of measures structured as continua to assess levels of functioning pertaining to mental representations of self and others.

Concepts of self-other representational disturbance are present in several models as wel as psychodynamic, interpersonal (e.g., Benjamin, Horowitz), cognitive– behavioral (e.g., Beck, Linehan, Young), and trait (e.g., Cloninger, Livesley) (Bender & Skodol, 2007). and are key aspects of personality pathology in need of clinical attention (Clarkin & Huprich, 2011; Pincus, 2011).

Personality problems have been conceptualized as difficulties in three self-other focused realms (Livesley & Jang, 2000): 1) the adaptive selfsystem, allowing the individual to create and maintain integrated representations of self and others; 2) the capacity for intimacy; and 3) the ability to function effectively in society. Some suggested that individuals with PDs are characterized by inadequate self-states and self-representations, as well as poor self-reflection and self-regulatory strategies" (Dimaggio, Semerari, Carcione, Procacci, & Nicolo, 2006). Morey (2005) and Ronningstam's (2009) demonstrated that a core dimension (represented by varying degrees of narcissistic difficulties) could appreciably account for high rates of comorbidity among different forms of personality psychopathology. These results highlighted the utility of constructing scales for capturing levels of impairment in personality functioning, based on self-other problems (Bender, Morey, & Skodol, 2011). One important approach to characterize severity in personality pathology has involved assessing contrasts in characteristic patterns of thinking about self and self-in-relation-to-others (e.g., Blatt & Lerner, 1983; Kernberg, 1987; Masterson, 1988). Kernberg (1970, 1989) was one of the first to classify character pathology encompassing personality types arrayed along a severity continuum basing on the quality of an individual's mental representations of self and others. Livesley and Jang (2000) have conceptualized personality problems as difficulties in self–other focused realms: (a) integrated representations of self and others; (b) capacity for intimacy; and (c) ability to function effectively in society. Individuals with personality disorders possess inadequate self-states, self-representations self-narratives, self-reflection and self-regulatory strategies (Dimaggio, Semerari, Carcione, Procacci, & Nicolo, 2006).

Patients with more differentiated representations of self and other (i.e., more adaptive attachment representations) and a greater capacity for mutual relatedness have fewer interpersonal problems (Lowyck, Luyten, Verhaest, Vandeneede, & Vermote, 2013).

PD, severity of PD diagnoses, and PD comorbidity were associated with greater impairment in personality functioning (Morey, Berghuis, Bender, Verheul, Krueger, & Skodol, 2011). Typical impairments in personality functioning were incorporated into the description of the personality disorder types for DSM-5 (Skodol, Bender, Morey, Clark, et al., 2011); this proposed severity dimension can capture variability, both across and within PD types (Skodol, Bender, Morey, Clark, et al., 2011).

3. Interpersonal functioning

Morey et al. (2011) concluded that, "indicators of personality disorders dimensions involve important functions related to self (e.g., identity integration, integrity of self-concept) and interpersonal relatedness (e.g., capacity for empathy and intimacy)". *I*mpairments in interpersonal functioning are thought to consist of problems with regard to empathy and intimacy. This view is congruent with a number of contemporary theories of personality development that view impairments with regard to self and others or impairments in self-definition and relatedness as key defining features of personality pathology (Bender et al., 2011; Bender & Skodol, 2007; Clarkin & Huprich, 2011; Luyten & Blatt, 2011; Skodol, 2012).

Individual differences in interpersonal style are typically conceptualized within a structural model, the interpersonal circumplex (IPC), consisting of two dimensions: warmth and dominance (Freedman, Leary, Ossorio, & Coffey, 1951; Moskowitz, Suh, & Desaulniers, 1994; Paddock & Nowicki, 1986;Wiggins, 1979).

Since personality psychopathology fundamentally emanates from disturbances in thinking about oneself and others (skodol, bender, morey, alarcon, et al., 2011), and interpersonal style has implications for social functioning and individual differences that could affect the symptom manifestation in individuals (ansell et al., 2011), measuring interpersonal behavior is an important component in the overall assessment of personality and psychopathology (e.g., Anchin & Pincus, 2010; Critchfield & Benjamin, 2008; Horowitz, 2004; Pincus & Ansell, 2003). It is importat to have instruments which allow to assess these aspcts. Relevant measures to assess self-other dimensions should (Skodol, Bender, Morey, et al., 2011): a) provide a dimensional approach, rather than a categorichal one; b) have a self-other orientation; є) feature central concepts and components; and d) be informative in the development of a personality functioning scale.

The Personality Assessment Inventory (PAI; Morey, 1991, 2007), the questionnaire used in the present study to assess personality dimensions both of the internalizing spectrum and of interpersonal skills, includes two scales for the assessment of interpersonal style , Dominance (DOM) and Warmth (WRM), which purport to measure the main two dimensions of the interpersonal circumplex model (IPC) (e.g., ansell et al., 2011; Leary, 1957;Wiggins, 1979).

Numerous studies using the measures designed to assess these and other related self other capacities have shown that a self-other approach is informative in determining type and severity of personality psychopathology, as well as in planning and in evaluating treatment interventions (Skodol, Bender, Morey, et al., 2011). For example, maturity of interpersonal relationships, were inversely correlated with the presence and severity of a PD diagnosis (Loffler-Stastka, Ponocny-Seliger, Fischer-Kern, & Leithner, 2005), also allowing to identify patients with different types of PDs (Bouchard et al., 2008;Hilsenroth, Hibbard, Nash, & Handler, 1993; Fonagy et al., 1996; Porcerelli, Hill, & Dauphin, 1995; Verheul et al., 2008). As well as central disturbances of PDs of all types relate to how one views one's self and other people (bender, morey, & skodoll, 2011). Similarly, earlier analyses by Morey (2005) have demonstrated that difficulties in empathic capacity, at varying levels, can be found at the core of all types of personality psychopathology.

3.1 Levels of Personality Functioning and impairment. Most clinicians conceptualize PDs primarily in terms of problematic interpersonal relationships, self-defeating behaviors, and distorted perceptions of self and others (Huprich & Bornstein, 2007; McWilliams, 2011; Millon & Grossman, 2007; Shedler & Westen, 2007), a conceptualization echoed in empirical studies of PD impairment (e.g., Clark, 2009; Hopwood et al., 2011; Tyrer & Johnson, 1996). Psychological functioning predicted both interpersonal functioning and clinical functioning impairmen such as severity of depression, symptomatic distress, and interpersonal problems (Lowyck, Luyten, Verhaest, Vandeneede, & Vermote, 2013).

Functional impairment is also a key aspect of the definition of personality disorder (Keeley, Flanagan, & McCluskey, 2014). The definition of personality disorder in Section III of the *DSM-5* stresses that both impairment and elevated traits are necessary for a diagnosis (keeley et al., 2014).

PD implies pervasive disorganization in personality structure and functioning in terms of a broad failure to develop important personality structures and capacities needed for adaptive functioning, such as the failure to develop coherent sense of self or identity, and chronic interpersonal dysfunction (Livesley, 1998).Interpersonal pathology is evaluated as a failure to develop empathy, attachment, prosocial and cooperative behavior and complex and integrated representations of others (skodol, bender, morey, alarcon, et al., 2011)

The full operationalization of the *DSM-5* concept of functional impairment for personality includes four domains (APA, 2013; Morey et al., 2011). The first two, identity and self-direction, are conceptualized as the functioning of the self, whereas the latter two, empathy and intimacy, are considered aspects of interpersonal functioning. Identity functioning includes considering oneself as separate from other individuals, and regulating one's affect and self-esteem. Self-direction refers to the individual's ability to pursue his goals while maintaining coherent and prosocial standards of behavior. Empathy regards the individual's capacity for understanding and appreciating others' experiences and motives, while intimacy reflects the person's ability to initiate and maintain meaningful interpersonal connections. (Bornstein, Bianucci, Fishman, & Biars, 2014), all aspects related to attachment. Although clinicians and clinical researchers recognize that there is some variation across PD categories with respect to etiology, dynamics, and surface presentation, most agree that the distinguishing feature of personality pathology involves deficits in self-concept and

interpersonal functioning, (see bornstein, Bianucci, Fishman, & Biars, 2014; Hopwood et al., 2011; Livesley, 2005; Shedler & Westen, 2007).

3.2 Personality Disorder types. Mental disorders are clinically significant impairments in one or more areas of psychological functioning. Empirically- based models of personality trait variation provide a starting point for *DSM-5*.

In assessing personality psychopathology, "generalized severity is the most important single predictor of concurrent and prospective dysfunction" (Hopwood et al., 2011). PD is characterized by a generalized personality severity continuum with additional specification of stylistic elements, consistently with Tyrer's (2005) assertion that severity level must be part of any dimensionally specified system for assessing personality psychopathology. PD is characterized by a generalized personality severity continuum, derived from PD symptom patterns and personality traits, consistently with the the importance of severity level identification for any dimensionally- specified system for assessing personality psychopathology (Tyrer, 2005).

Personality disorders are characterized by the presence of some "traits" characterized by rigidity aspects such as to impair the normal way of relating. These individuals act in an inappropriate manner within relationships, making relationships unsatisfactory or conflicting, only to systematically tend to avoid them (Prank, 2013). Any threshold for diagnosis will be arbitrary, in that individuals slightly above and below this threshold can be quite similar (morey et al., 2011). Personality pathology is conceptually independent of specific personality traits, instead representing a more general adaptive failure or delayed development of an intrapsychic system needed to fulfill adult life tasks (Livesley, 2003). It is also important to examine functional impairment or disability for PD diagnosis for optimal placement of a diagnostic boundary (morey et al., 2011).

3.3 Definition and General Criteria for a PD. An important distinction must be made between personality patterns and personality disorders. In fact, while the former are adaptive structures through which the person experiences his world, the latter are pathological conditions characterized by extreme traits "normal" personality, and thus are characterized as real psychiatric disorders that alter individuals' normal functioning.

These traits, therefore, have become so extreme and rigid enough to cause functional problems of the individual who does not fall in accepted social standards and will not be able to change his behavior in order to better adapt himself to the environment. Also, personality disorders are experienced as "ego-syntonic", that is, perceived as something that is a part of oneself and one's own person (Akhtar, 2001; Hansel, Damour, 2007). Since personality disorders are exaggerated versions of "normal" personality traits, a continuum can be identified in which on one end lies the "normal" behavior, while on the other end arise personality disorders, which are characterized by extreme rigidity, inflexibility and chronicity.

However, as with clinical personality research in general, studies on the *DSM-5* trait model have focused primarily on questions of structural validity and the assessment of personality disorders. For the full clinical potential of *DSM-5* traits to be realized, research is needed on the relationship between *DSM-5* traits and clinical issues more broadly (hopwood et al., 2013).

CHAPTER 2

4. The age of Young adulthood

Developmental theories emphasized the importance of transitions, as periods of biologically and socially characterized changes (Arnett, 1997; Gurevitz Stern, 2004; Schulenberg, Magges, Hurrelmann, 1997; Schulenberg & Zarrett, 2006). An important developmental phase to analyze when talking about age after 18 years is young adulthood, which can be detectable between 18 and 30 years of age (Neyer & Asendorpf, 2001).

This gradual process takes place along the continuum of the life cycle, and it sees the young man to go from the total social marginality of adolescence, to a partial marginality, in young adulthood, up to a fully recognized social position in the adult stage (Aldermen & Iafrate, 2003). Thus, the construct of adulthood, where the etymological origin of the term adult means "full (intero)", expresses the idea that the individual reaches a milestone in the evolutionary cycle which is expressed in a social, family and professional stability for which the "adulthood" seems the appearance of a desirable end point, more than a natural process.

One consistent theme across these interactional models is the critical nature of young adulthood (Arnett, 2000). Rindfuss (1991) called the period from ages 18 to 30 "demographically dense" because of the many demographic transitions that take place during this developmental phase. For most young people in industrialized countries, the years from the late teens through the twenties are years of profound change and importance. During this time, many young people obtain the level of education and training that will provide the foundation for their incomes and occupational achievements for the remainder of their adult work lives (Chisholm & Hurrelmann, 1995). It is for many people a time of frequent change as various possibilities in identity, love, work, and worldviews are explored (arnett, 2000; Erikson, 1968; Rindfuss, 1991). During the third decade of life, people are free to try their hands with relationships, worldviews, and lifestyles, with the main developmental task to choose life paths and to commit to intimate relationships (Neyer & Lehnart, 2007). For this reason, substantial changes in personality traits are expected to occur during this critical period.

When adults later consider the most important events in their lives, they most often name events that took place during this period (Martin & Smyer, 1990). Sweeping demographic shifts, like median age of marriage and age of first childbirth, have taken place over the past half century that have made the late teens and early twenties not simply a brief period of transition into adult roles but a distinct period of the life course, characterized by change and exploration of possible life directions (arnett, 2000). Also, since midcentury the proportion of young adults form many industrialized countries obtaining higher education after high school has risen steeply (arnett, 2000). These changes over the past half century have altered the nature of development in the late teens and early twenties for young people in industrialized societies. Because marriage and parenthood are delayed until the midtwenties or late twenties for most people, it is no longer normative for the late teens and early twenties to be a time of entering and settling into long-term adult roles. On the contrary, these years are more typically a period of frequent change and exploration, also culturally constructed (Arnett, 1998, 2000). Specifically, the two top criteria for the transition to adulthood in a variety of studies have been *accepting responsibility for one's self* and *making independent decisions* (Arnett, 1997, 1998; Greene et al., 1992; Scheer et al., 1994). A third criterion is *becoming financially independent*, also ranks consistently near the top. The prominence of these criteria for the transition to adulthood reflects an emphasis in emerging adulthood on becoming a self-sufficient person (Arnett, 2000). During these years, the character qualities most important to becoming successfully self-sufficient--accepting responsibility for one's self and making independent decisions--are being developed. For most young people in American society, this occurs some time during the twenties and is usually accomplished by the late twenties (Arnett, 2000). Identity development continues through the late teens and the twenties (Valde, 1996; Whitbourne & Tesch, 1985). Identity formation involves trying out various life possibilities and gradually moving toward making enduring decisions, in all three of love, work, and worldviews areas, this process begins in adolescence but takes place mainly in young adulthood (Arnett, 2000). One of its remarkable characteristics is the exploration of different lifestyles, especially regarding romantic relationships (Lehnart & Neyer, 2006). In young adulthood, explorations in love become more intimate and serious, and the focus is less on recreation and more on exploring the potential for emotional and physical intimacy (arnett, 2000), romantic relationships last longer than in adolescence, and

may include cohabitation (Michael et al., 1995), involving a deeper level of intimacy, and the implicit question is more identity focused (arnett, 2000). The changes that come along with trying out several relationships imply instability in the immediate social environment, which in turn may affect personality and upcoming relationship quality (Lehnart & Neyer, 2006).

With regard to work, a similar contrast exists between the transient and tentative explorations of adolescence and the more serious and focused explorations of emerging adulthood (arnett, 2000).

However, emerging adulthood is also the time when dating relationships are transformed into more serious romantic relationships (Furman, 2002). During this time, emerging adults may consider whether the person he or she is dating is the right person with whom to start a family.

In young adulthood, work experiences become more focused on preparation for adult work roles. In exploring various work possibilities, they explore identity issues as well (arnett, 2000). Young adults' educational choices and experiences explore similar questions. In their educational paths, they try out various possibilities that would prepare them for different kinds of future work. College students often change majors more than once, especially in their first two years, as they try on possible occupational futures, discard them, and pursue others. With graduate school becoming an increasingly common choice after an undergraduate degree is obtained, young adults' educational explorations often continue through their early twenties and midtwenties. Graduate school allows young adults to switch directions again from the path of occupational preparation they had chosen as undergraduates (arnett, 2000). For both love and work, the goals of identity explorations in young adulthood are not limited to direct preparation for adult roles. On the contrary, the explorations of young adulthood are in part explorations for their own sake, part of obtaining a broad range of life experiences before taking on enduring--and limiting-- adult responsibilities. The absence of enduring role commitments in young adulthood makes possible a degree of experimentation and exploration that is not likely to be possible during the thirties and beyond. For people who wish to have a variety of romantic and sexual experiences, young adulthood is the time for it, because parental surveillance has diminished and there is as yet little normative pressure to enter marriage. William Perry (1970/1999) has shown that changes in worldviews are often a central part of cognitive development during young adulthood. A college education leads to exposure to a variety of different worldviews. By the end of their college years they have often committed themselves to a worldview different from the one they brought in, while remaining open to further modifications of it (arnett, 2000) emerging adults consider important to reexamine the beliefs they have learned in their families and to form a set of beliefs that is the product of their own independent reflections (Arnett & Jensen, 1999; Hoge, Johnson, & Luidens, 1993). Although the identity explorations of emerging adulthood make it an especially full and intense time of life for many people, these explorations are not always experienced as enjoyable. Explorations in love sometimes result in disappointment, disillusionment, or rejection. Explorations in work sometimes result in a failure to achieve the occupation most desired or in an inability to find work that is satisfying and fulfilling. Explorations in worldviews sometimes lead to rejection of childhood beliefs without the construction of anything more compelling in their place (Arnett & Jensen, 1999). Also, to a large extent, emerging adults pursue their identity explorations on their own, without the daily companionship of either their family of origin or their family to be (Morch, 1995).

The aim to define the period of transition from the dependency of childhood to the independent age of adulthood, has become increasingly complex and difficult (Jones, 2005). Trajectories of standardized school-work and family have been "crushed" by the weakened ties between education and work, with a decreased long-term viability of the professional skills and experience, family instability and a culture that emphasizes more flexibility, choice and change (Macmillan, Billari, & Furstenberg, 2012). The result is a "disintegration" of markers of life course transition, which are also more variable in the sequence, and by an increased overlap between social roles (Macmillan, Billari, & Furstenberg, 2012).

Young adulthood emerges, therefore, as a demographically dense period characterized by multiple transitions related to social status, housing, employment and education that take place all within a relatively short period (Schulenberg - Schoon, 2012). However, the magnitude of these transitions varies among individuals depending on their biological heritage and the cultural and social context in which they are growing (Featherman & Lerner, 1985). This means that also the pace of biological, psychological and social development may vary between individuals, therefore there will be no uniformity in the sequence in which the various dimensions will occur at different developmental stages. moreover, the various pathways to adulthood will, in turn, produce differences in the individuals' aging process (ibid.).

The young adult, therefore, is subject to multiple demands and stresses which come from different domains of its existence (Evans, 2007; Evans, 2001) and, although the transition to adulthood involves specific constructs (Modell - Furstenberg - Her-shberg, 1976), experts believe that, in modern Western societies, the process of becoming adult makes necessary to assume several new social roles (Schulenberg - Schoon, 2012), which involves a progressive independence from the family of origin and a simultaneous increase of responsibility towards others (Selvaggio, 2010).

In the scientific literature, becoming an adult has traditionally been understood as the achievement of five key steps (Settersten & Ray, 2010), or markers of transition (Schulenberg - Schoon, 2012): leaving the parental home, finishing school, entering the world of work, getting married and having children (Settersten & Ray, 2010); these, though not all prescriptive for the individual, however, appear to be socially necessary for the physical and cultural continuity of society (Model - Furstenberg - Hershberg, 1976). However, intrapsychic characteristics of this specific transition are still under investigation (Selvaggio, 2010).

Young people can show non-homogeneous patterns of development. For example, they can become "economically independent" through employment, while still living in the parental home, or they may feel responsible for their own life (or to live in a house) and, at the same time, continue to need parental support or state (Jones, 2005). Unlike their parents and grandparents, for whom marriage and the parenthood were the conditions for the attainment of adulthood, youths today often see these markers as lifestyle choices, not as requirements, and as elements to complete their process of becoming an adult, rather than a way to start it (Settersten - Ray, 2010).

Not only has the mean age for entering into marriage increased over the last decades in Western countries, but also the number of cohabiting but unmarried couples (Lehnart & Neyer, 2006).

New realities, therefore, have been built on the basis of these definitions (Settersten - Ray, 2010).

Early years of adulthood, in fact, often lead to the pursuance of a higher education, which is required today in order to gain a decent standard of living to (Settersten - Ray, 2010). Second, with regards to work, today it takes more time and young people must try several different places of work before finding a full-time job that pays enough to support a family(Settersten - Ray, 2010). Third, becoming adults today usually involves a period of independent life before marriage, although the percentage of young people who are still living in the parental home, even after finishing studies and got a job, is increased (Settersten - Ray, 2010). Fourth, as a result of these changes, marriage and parenthood are significantly postponed in the course of life. Finally, both on education, work and family, young adults have a different set of options and experiences depending on their family background and economical resources (Settersten - Ray, 2010).

Consequently, "the tasks of completing education, finding a job, coming out of the family home, getting married, having a child are delayed (Buzzi, 2000), resulting in a social situation of substantial delay, compared with previous generations and with biological clock.

Markers of transition to adulthood of past generations, therefore, have assumed a symbolic meaning in the new generations and a process of increasing individualization has affected the life course of today young adults,that have become increasingly responsible for the choices and for the time they spend to implement them (Bonini, 2005). However, the aspects of novelty do not regard only markers of transition, compared to the past.

Also the succession of different developmental phases is always less fixed and predictable -for example, today the number of single parents (ie mothers) is increasing-, showing that some markers are skipped, or anticipated, or even postponed (Macmullin - Billari - Furstenberg, 2012). Its 'clear, therefore, that with regards to the developmental axis of work and family, intermediate and socially ambiguous dimensions have taken shape, which are also not predetermined in their duration (Bonini, 2005), a condition with no well-define limits which breaks down the traditional sociological and biological barriers (Canevacci Re-Beiro, 2003).

Finally, also the temporal distance between the markers of transition itself is expanded, resulting in a kind of "extension" of the young adult "category". For these reasons, and in light of the changes taking place in the modern era for the transition to young adulthood, it is possible to understand how the construct of young adulthood is a condition, rather than a process, that determines the transition to adulthood: while a process is a set of practices aimed toward a predictable outcome, a condition is a situation of waiting for an unforeseeable outcome (Santoro, 2004; < http://www.sps.unimi.it/ecm / home / research / publications >).

Young adulthood is a period defined by identity exploration, instability, and feeling “in-between” (Arnett, 2004). Although this age allows for unparalleled opportunities and hope for the future it can also be a stressful time marked by difficult decisions, changes, and life transitions (Arnett, 2004). This situation can affect individual psychosocial functioning, that include academic and occupational performance, marital and parenting status, income level, quality of

relations with family and peers, adversity, life satisfaction, mental health utilization, and general physical health (Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2003). Young adulthood may present new challenges because of the increased responsibility required in this developmental period (Arnett, 2007).

Moreover, young adulthood represents a crucial developmental stage because in this period, basing on the acquisitions made during adolescence, decision making and planning mechanisms are structured; furthermore, if the process of addressing problems and taking opportunities, which characterize this phase are not met, they could show negative influences on the individual development (Selvaggio, 2010), in terms of health and welfare (Schulenberg - Schoon, 2012).

Arnett (2000) proposed a distinction between emerging adulthood (18-25 years) and young adulthood (26 to 29 years). The majority of young people ages 18-25 do not believe they have reached full adulthood, whereas the majority of people in their thirties believe that they have (Arnett, 2000). The majority of people ages 18-25 are still in the process of obtaining education and training for a long-term adult occupation, whereas the majority of people in their thirties have settled into a more stable occupational path. The majority of people ages 18-25 are unmarried, whereas the majority of people in their thirties are married. The majority of people ages 18-25 are childless, whereas the majority of people in their thirties have had at least one child. The list could go on. The point should be clear. Emerging adulthood and young adulthood should be distinguished as separate developmental periods. It should be emphasized, however, that age is only a rough indicator of the transition from emerging adulthood to young adulthood. Eighteen is a good age marker for the end of adolescence and the beginning of emerging adulthood, because it is the age at which most young people finish secondary school, leave their parents' home, and reach the legal age of adult status in a variety of respects. However, the transition from emerging adulthood to young adulthood is much less definite with respect to age. There are 19-year-olds who have reached adulthood--demographically, subjectively, and in terms of identity formation-- and 29-year-olds who have not. Nevertheless, for most people, the transition from emerging adulthood to young adulthood intensifies in the late twenties and is reached by age 30 in all of these respects. Different emerging adults reach adulthood at different points. Marriage and parenthood are typically postponed until well after schooling has ended, which allows for a period of exploration of various relationships before marriage and for exploration of various jobs before taking on the responsibility of supporting a child financially. emerging adulthood is best understood as a characteristic of cultures, as a distinct period of the life course, specific of industrialized societies (arnett, 2000).

Emerging adulthood has been recently described as a distinct developmental period between adolescence and young adulthood for the ages of 18 to almost 30 (Arnett, 2000; Lehnart & Neyer, 2006).

This period may be a time when individuals are at a heightened risk for depression and anxiety, as research has shown that psychosocial stress is a significant predictor for psychopathology (Grant et al., 2003). Many individuals perceive the transition to adulthood as difficult (Reinherz et al., 2003; Rohde, Lewinsohn, P. M. - Klein, D. N. - Seeley 2005); although most young adults adapt to new situations in such a way that contingent psychological distress is only a transient phenomenon, a large number of them experience more structured symptoms (Graber - Brooks-Gunn, 1996a; Schulenberg - Zarrett, 2006). Individuals who were in the phase of the moratorium seemed more likely to experience anxiety, compared to other phases. Since these people were exploring their beliefs, values and world views, they could nourish worries about the unknown, the possibility to find a purpose and meaning in life, recognizing that they were also socially alone (Weems et al., 2004). These concerns seemed to predict both anxiety and depression symptoms (Weems et al., 2004). The many life transitions and changes during young adulthood provide challenges for growth and require, as noted earlier, a psychological restructuring ; the ability to adapt to these changes is predictive of symptoms outcome (Graber - Brooks-Gunn, 1996a).

4.1 Young adults in Italy. Today in Italy the transition to adulthood is configured as a prolonged state of cognitive dissonance (Metin & Metin Camgoz, 2011) where the young adult, which is placed in front of many opportunities, tend to try himself in different roles and to experiment choices which are characterized by a marked reversibility (Bazzanella, 2010). This situation of tries continued during time, further delays the achievement of transitional markers. The percentage of young people who start work before the age of 15 has reduced, and has grown to those who perform occasional and odd jobs or who work and study at the same time, with a steadily increasing number of people who enter the school system, as well as years spent in the school system (Bazzanella, 2010; Buzzi, 2000).

As a result, the condition of transition to adulthood, in which Italian young adults are involved as protagonists, becomes a phase of prolonged psychosocial moratorium, which does not help young people in solving their doubts and indecision, and coming to a decision about their future (Birindelli, 2003). As another consequence, the age range reference that outlines the size of the young adult cathegory has gradually expanded, acquiring increasingly blurred boundaries.

In an intergenerational perspective, which includes sociological and psychological approaches and research, the introduction of the oxymoron "young adult" allowed to well identify the paradoxical condition in which still coexist youth dimensions, such as emotional dependence by parents and the difficulty in self-management of time, with typically adults goals, such as economic independence and work stability (Bonini, 2005, 2007). The end of adolescence, therefore, no longer coincides with the entry into adulthood, but it rather results in the period called young adulthood, which is lasts roughly from 20 to 30 years (Scabini & Iafrate, 2003).

In the 80s researches considered "young" those individuals who fell between the ages of 15 and 24 years, when youths were able to achieve most of the markers of transition (Bazzanella, 2010). From the 90s onwards, confirming of linearity and changes in the transition to adulthood, the age between 15 and 24 years came to acquire a social status which was closer to that of the adolescent than that of the adult; in it, in particular, were included all individuals who still remained inside the family house, and those who, after leaving, were returning because of, for example, loss of job or marital separations (ibid.); this band was then extended to encompass the first 29 year olds then 34 years of age (IARD, 2000).

It follows, therefore, that most of the principal statuses associated with adulthood (secure jobs, long term relationships, live in an independent house, etc..) are for contemporary young adults more permeated with risk, like having to go back home after leaving the family house and returning to a form of parental dependence, so as to generate an insecurity which has implications for the definition of a "successful" transition(Jones, 2005).

4.2 Life of italian young adults within the family of origin. Peculiarities of the Italian context can be explaned both in cultural reasons, which are related to the nature of intergenerational family ties (Dalla Zuanna, 2001), and in economic constraints due to lack of opportunities for new-ve generations especially with regard to research for a stable job (Sironi - Rosina, 2012). In recent decades, young Italians are affected by problems related to precarious employment, unstable careers and the exclusion of social rights (Barbieri, 2010). This is also consistent with the lower probability, for Italian couples, of realizing the project of becoming parents (Rosina - Testa, 2009). At present, young adults, especially from Italy, seem not to show an independent attitude, which would be consistent with characteristics of secure attachment style (Maione - Franceschina, 2002). In Italy, in particular, the phase of the moratorium which seems to characterize Italians transition to adulthood (Birindelli, 2003), is connected to a reversibility in one's own choices (Ricolfi, 1984; Bazzanella, 2010) and to remaining in the parental home, seems to contribute to a further slippage in the achievement of the developmental tasks, amplifying possible maladaptive outcomes (Birindelli, 2003).

Young people, leaving very late from parental home, stay in a protected situation in which they have no responsibility, where they can postpone their developmental tasks, as, first of all, separation from birth family, and the acquisition of both adult identity and autonomy.

If economic constraints and the difficulties in finding a stable job tend to have a negative impact on the process of transition to adulthood and on the formation of a new family for different social groups of young people, the recent global crisis may be destined to worsen the condition even more, causing a further delay in the trajectories of the life courses of the latter (Sironi & Rosina, 2012). Following the general trend that characterizes modern society, the resulting persistence of young Italians in the parental home leads to the emergence of a new type of 'long family', or the 'young adult family', which are characterized by the cohabitation of two adult generations in the same home, and are even more frequentin the society nowadays (Bonini, 2007), two adult generations. This condition has led, therefore, to the spread of a specific form of family relationship (Selvaggio, 2010), where parents continue supporting their young-adult children until they leave home permanently (Jones, 2005).

According to ISTAT, in 2009 young people, aged between 18 and 34 years, amounted to 7 milliondistributed among the employed (42.5%), students (33.4%) and seeking employment (21.3%), who lived at home with at least one parent (58.6% of those in the age group) with a preponderance especially in the South (ISTAT, 2009, 2010, <http://www.istat.it>).

Young Italians, compared to those of other north-western Europe countries feel completely normal continuing to live

with their parents even after the age of 25 years and the plan of leaving the parental home is generally associated with marriage, which, at the same time, is postponed to a undetermined future (Youth Report, 2012); stay in the family appears, therefore, no longer a choice but an imposition (Bonini, 2005).

A complementary relationship between the parental protectiveness and the privileged position of their young adult children seems to constitute a delay or even a interruption, in the social development of the young adults, which would find themselves forced into their own tendencies to independence, since the breaking of generational process, which would be the necessary element of transition of the developmental cycle, fails (Selvaggio, 2010). A further question is if young Italians' attitude reveals a good ability to adapt to social conditions offered by the country or, on the other hand, it can conceal a insecure-ambivalent attachment style (Maione - Franceschina, 2002). 2.2. The social context and intimate relationships

Even if young adults today often tend to live in ~~seclusion~~, the relational dimension has anyway a central role in the lives of young Italian adults (Pollo, 2006). However, the changes in the life cycle in modern society have produced effects also in the interpersonal relations, which, in turn, can have a role in affecting aspirations, and results of the life cycle (Bonini, 2005).

The social networks of young Italians, i.e. the social capital may be the key (or act as a barrier) for a "successful transition", since it is associated with cultural and economic dimensions necessary to support transitions to adulthood (Jones, 2005). In some circumstances, change and / or loss of these social relationships, rather than their consolidation or extension, may be the key to change perspectives and behaviors. For many young adults, social relationships can change dramatically, leading in some cases to their loss (for example, if a person leaves school and home in the same moment); for others, long standing social relations are renegotiated and new types of formal and informal relationships are developed, such as the employee / employer, partner in an intimate relationship or parent of a child (Jones, 2005). Therefore, for the purpose of young adults' "well-being", it may be important that the existing social relations can evolve and adapt also during these times of crisis (Jones, 2005). Even intimate relationships play a decisive role in the lives of young adults; after the family, romantic relationship has an important developmental role (Baldoni, 2009), and love is reported as the most important value by 77.6% of subjects (IARD, 2000).

The structure of the romantic couple has undergone many transformations becoming less stable and less institutionalized (Bonini, 2005). However, choices are gradual over time, so that, in a society of uncertainty, young adults are ever less prone to plan for their future, both in work and in couple relationship, so that the marriage becomes the act that seals family formation rather than being the act of its foundation (Bonini, 2005).

Although the protective role of the parents is reduced when young adults become independent, there is still a need of the social support that personal relations, as for example those intimate, are able to provide (Jones, 2005).

4.3 Personality development during life. There is at least moderate continuity in personality dimensions across childhood, adolescence, and adulthood (Roberts & DelVecchio, 2000). Historically, there has been an ongoing controversy over the existence of personality change in adulthood. The radical position asserting that personality traits did not exist and therefore could not develop (Lewis, 2001; Mischel, 1968) has been refused. Studies underline both the long-term continuity of personality (Fraley & Roberts, 2005) and the increasing levels of consistency with age (Roberts & DelVecchio, 2000), coupled with the burgeoning evidence for the predictive validity of personality traits in important life domains, such as work (Judge et al., 1999), marriage (Robins, Caspi, & Moffitt, 2002), and health (Bogg & Roberts, 2004).

On the other hand, there has been an ongoing debate on the otherside of the spectrum, with some arguing for the immutability of personality, especially in adulthood (McCrae & Costa, 1999), and others arguing that personality traits continue to develop, sometimes even in midlife and old age (Helson,Jones, & Kwan, 2002; Helson & Stewart, 1994; Roberts, 1997).

All the theories that have taken place over time about the study of personality started from the assumption that this is modeled during the early years of life, since infancy and childhood, and then, once structured, it remains relatively stable during adulthood without any other significant changes.

Personality develops and changes over time, through an integrating process between everyday experiences and innate temperament, thus outlining ways in which persons are and how they relate to others (Beck & Freeman, 1990; Caspi & Roberts, 2001). Personality traits change both during adulthood, and in the elder age (Roberts & Mroczek, 2008; Roberts, Walton, & Viechtbauer, 2006; Srivastava, John, Gosling, & Potter, 2003).

Temperament traits in childhood and personality traits in adulthood both follow an interesting pattern: Stability in individuals' traits seems to derive from genetic influences, whereas changes in traits are influenced by both genetic and environmental factors (Ganiban, Saudino, Ulbricht, Neiderhiser, & Reiss, 2008; Krueger & Johnson, 2008; Saudino, 2005). In short, current behavior genetic research makes clear that temperament and personality traits both arise from the complex interplay of genes and experiences.

Personality is characterized by elements biologically determined by birth, but it is an active construct that modifies and changes during individual development through the continuous interactions with the environment. Individuals interact with the environment changing it and, vice versa, they are modified from environment in a process of mutual interaction.

Moreover, very little support was find for the ideathat men and women change in distinct ways or that they change (Roberts, Walton, & Viechtbauer, 2006).

Women and men may develop differently because of **gender**-based social experiences (Buss, 2008; Eagly & Wood, 2005). Studies of development during middle adulthood indicate that women's self-confidence and coping skills improve with age (Helson & Moane, 1987; Helson et al., 1997), suggesting decreasing levels of Neuroticism primarily in women (Viken, Rose, Kaprio, & Koskenvuo, 1994). Similarly, a longitudinal study by Wink and Helson (1993) found that women became less emotionally dependent and more competent with age; in contrast, men started adulthood less dependent and more competent than women but then remained relatively stable on these traits.

One of the primary implications of the fact that change in personality traits comes, in part, through social role experiences is that chronological age is a less than ideal marker of development.

With the decrease in agriculture and manufactur-ing and increase in technological and service jobs, people inWestern countries have extended their educational experiences anddelayed their careers from teens now well into their 20s and 30s.This also change the age of onset of these major life transitions, then we might expect thenormative age at which personality traits change to shift also.Many developmental psychologists often refers to "psychological age" instead of chronological age as a more appropriate depiction of development. One of the factors would need to be accounted for in the conceptualization of the construct psychological age is when adult social roles are engaged and committed to.

Individual differences in intraindividual change is a central tenet of life-span developmental psychology (e.g., Mroczek & Spiro, 2005). The concept of individual differences in change holds that people vary in the direction, the rate, and the time of change. (Neyer & Lehnart, 2007). Personality development at this age is characterized by individual differences in change, which are substantially associated with life transitions and relationship experiences.

Individual differences in personality development are considerably associated with individual relationship experiences (Neyer & Lehnart, 2007). In young adulthood, some kinds of relationship, such as with family of origin and with peers, are continued and molded, reflecting the flux and flow in social networks, whereas other relationships, such as with romantic partners and children, are new and come along with normative life transitions (Neyer & Lehnart, 2007). Investments in age-graded social roles calls for becoming more socially dominant, agreeable, conscientious and less neurotic (Roberts, Wood, & Smith, 2005).

Moreover, there is now accumulating evidence for the existence of individual differences in personality trait change at all stages of life (Roberts & Mroczek, 2008), as well as inyoung adulthood (Robins et al., 2001). Individual differences in change speak to the unique patterns of development particular to individual lives. Nonnormative patterns of change can be predicted from life experiences, such ashaving an unstable marriage or participating in unconventionalactivities, such as smoking marijuana (Roberts & Bogg, 2004;Roberts, Helson, & Klohnen, 2002).

4.4 Personality development in young adulthood. Even if some studies reported that significant modifications were recorded between the age of 40 and over 60 years, several research (Costa, Herbst,McCrae, & Siegler, 2000; Roberts & Mroczek, 2009) have shown that the major change in personality traits occurs in the age group between 20 and 40 years old, when people increase in measures of social dominance (a facet of extraversion), conscientiousness, and emotional stability (Roberts, Mroczek, 2008; Roberts, Waltron, & Viechtbauer, 2006). The biological view of the Five-factor theory proposes the plaster hypothesis: All personality traits stop changing by age 30. In contrast, contextualist perspectives propose that changes should be more varied and should persist throughout adulthood (Srivastava, john, gosling, & potter, 2003).

McCrae and Costa's (1996) five-factor theory asserts that personality traits arise exclusively from biological causes (i.e., genes) and that they reach full maturity in early adulthood; thus, this theory predicts little or no change on any personality dimension after early adulthood. By contrast, contextualist perspectives argue that traits are multiply determined, and that one important influence on traits is the individual's social environment (Helson, Jones, & Kwan, 2002). Contextualist perspectives thus predict plasticity: Change is complex and ongoing, owing to the many factors that can affect personality traits (Srivastava, john, gosling, & potter, 2003). Roberts, Robins, Caspi, & Trzesniewski (2003) concluded that, in general, Conscientiousness and Agreeableness tend to go up during adulthood, Neuroticism tends to go down, Openness shows mixed results across studies, and Extraversion shows no general pattern of change at the factor level. This basic pattern of findings has been reported in specific studies by researchers who argue that personality traits are affected by context (e.g., Helson et al., 2002; Helson & Kwan, 2000) as well as those who favor a strictly biological interpretation of traits (e.g., McCrae et al., 1999, 2000).

These studies underlined that young adulthood appears to be the most important period for personality changes and development (Roberts & Mroczek, 2008; Lüdtke, Roberts, Trautwein, & Nagy, 2011).

In contrast with the stereotype of personality development as a phenomenon of childhood and adolescence, one of the most noteworthy findings was that personality traits changed more often in young adulthood than any other period of the life course, including adolescence (Roberts, Walton, & Viechtbauer, 2006). Roberts et al (2006) demonstrate that personality traits show a clearpattern of normative change across the life course. People becomemore socially dominant, conscientious, and emotionally stablemostly in young adulthood, which is most consistent with findings from inter-actional models of personality development (Roberts & Caspi, 2003). Rather, young adulthood, the period of life in which people tran-sition from their family of origin to their family of destination, from compulsory education to a career and to being active members of their community, is the time during which we see the mostpersonality trait change and a uniformly positive pattern of changeat that (Roberts, Walton, & Viechtbauer, 2006). Individual differences in intraindividual change is a central tenet of life-span developmental psychology (e.g., Mroczek & Spiro, 2005). The concept of individual differences in change holds that people vary in the direction, the rate, and the time of change. For example, a mean-level decrease in neuroticism does not exclude the possibility that quite a sizeable minority may not follow this trend, but rather increase. Moreover, maturation does not necessarily mean that all individuals of a cohort change at the same time. Even though most people seem to mature between 20 and 30, some may decrease in neuroticism later or earlier than others depending on experiences that initiate personality change. Finally, mean-level stability (e.g., of extraversion) may sometimes even conceal individual differences in change; some individuals may decrease in extraversion, while others increase, thus canceling out each other's change and resulting in no mean-level change overall (Neyer & Lehnart, 2007).

It was also hypothesized that individual changes would occur in a "positive direction", meaning that, with age increasing, people become more secure on theirselves, more responsible and more emotional stable, warm, or more mature at a social level. The common social investment trend in young adulthood, consisting in invest in the social roles tied to one's career, family, and community serves as a catalyst for mean-level changes in personality-traits (Roberts & Wood, 2006). For example, several longitudinal studies have shown that participating in a stable marriage and committed career track are associated with increases in social dominance, conscientiousness, and emotional stability (Roberts & Wood, 2006). One important aspect of the study of individual differences in change is that, as they may be quite consequential for people, personality traits are considered outcomes, not predictors (Roberts & Mroczek, 2008). For example, personality traits are seen as the consequence of work or relational experiences.

These factors, in turn, allow for more positive relationships, greater success in academic and work performance, and an healthier and longer life (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007; Roberts & Mroczek, 2008; Roberts, Walton, & Viechtbauer, 2006**;** Roberts & Wood, 2006).

Chronological age is just one of several ways to estimate age and may not be the most relevant indicato of trait consistency (birren & cunningham, 1985). For example, social age, which refers to the timing of a person's roles and habts, and osychological age, which reflects the behavioral capicities of individuals. Both of these alternative indicators of age may be more relevant for personality cinsistency than is chronological age (roberts & delvecchio, 2000).

The primary theoretical explanation for personality traits changing as they do at the transition from adolescence to young adulthood is the neosocioanalytic model of personality trait development (Roberts, Wood, & Caspi, 2008). The neosocioanalytic model identifies several mechanisms that may contribute to personality trait change. The primary mechanisms identified at the transition to adulthood are the experiences that come with agegraded social roles (Lodi-

Smith & Roberts, 2007; Roberts, Wood, & Smith, 2005). Agegraded roles found in work, family, and community promote a reward-and-punishment structure that prompts people to become more agreeable and conscientious and less neurotic (Wood & Roberts, 2006). Experiences in social relationships have also been shown to be associated with changes in personality traits. For example, engaging in a serious partnership for the first time in young adulthood is associated with decreases in neuroticism and increases in conscientiousness (Lehnart, Neyer, & Eccles, 2010; Neyer & Asendorpf, 2001; Neyer & Lehnart, 2007).

Although it is clear that experiences within social roles are related to individual differences in personality trait change, these types of experiences fail to explain all personality change in young adulthood. During the age of transition to young adulthood, primary life paths are represented in going to university or entering vocational training or work. Life paths also represent a larger coalescence of developmental processes, subsumed within identity development (Helson, Stewart, & Ostrove, 1995). For example, these paths will most likely represent "provisional identities" (Roberts, O'Donnell, & Robins, 2004) in which people begin to imagine and conceptualize what type of adult they will become. Moreover, adopting one path or the other may reflect a choice or may reflect a necessity forced on the student (e.g., to get into the labor market quickly). In addition to these two life paths, an important role on personality development is also exerted by life events (Ludke, Roberts, B., Trautwein, U., Nagy 2011), which are, in turn, often caused by individual differences in personality, an effect described as "selection" effects (Roberts & Wood, 2006).

A transactional perspective on mean level change in personality would focus on normative role transitions— that is, transitions experienced by large numbers of people. Probably the three most important social role domains that undergo changes in early and middle adulthood are work, marriage or partnership, and parenting. Although individuals differ in the exact timing of when they take on work responsibilities, form committed partnerships, and nurture children, there are normative age ranges for these roles, suggesting that they may be linked to typical mean-level personality changes. More recently, Baltes (1997; Baltes, Lindenberger, & Staudinger, 1998) with the life span development approach, proposes a dialectic between consistency and change in personality over the life course, with adaptation being the primaryfocus of development. Along with Baltes, Srivastava et al (2003) believe that adult personality is characterized by plasticity, and the mechanisms of personality change can be best understood by considering the life contexts that accompany change.

Recently, Roberts and Caspi (2003) consistently with Baltes's(1997) life span approach (see also Roberts & Wood, in press) proposed that normative commitments to the conventional social institutions necessary to create an identity (e.g., work,marriage, family, community) gives rise to the increases in traits associated with psychological maturity, such as agreeableness,conscientiousness, and emotional stability (see also Roberts,Caspi, & Moffitt, 2003; Roberts & Wood, 2006).

Some major results paint a differentiated picture of personality- relationship transaction (Neyer & Lehnart, 2007; neyer & asendorpf, 2011). The assumption of correspondence between personality and relationship development was supported by individual differences in personality change as related to change in two relationship categories, family and peer relations. Second, the transition to the first serious partner relationship moderated the maturation of personality.

The maturation of personality reflects general changes during the transition from emerging to young adulthood (Arnett, 2000). Because emerging adults may still have the opportunity to explore a variety of possible life purposes in relationships and worldviews, they may show considerable levels of emotional instability. As young adults, however, many have started taking on the enduring responsibilities that are normative in adulthood and require a certain degree of emotional stability, social reliability, and maturity. At the same time, individual differences in change in each trait (except agreeableness). Studies of twins have shown that environmental factors play a larger role in personality trait change in adulthood than do genetic factors (Roberts, Walton, & Viechtbauer, 2006). Life experiences and life lessons centered in young adulthoodare the most likely reason for the patterns of development, especially the increases in social dominance,conscientiousness, and emotional stability (Roberts et al., 2005).Specifically, the universal tasks of social living in young adult-hood, such as finding a marital partner, starting a family, and establishing one's career, appear to be candidate experiencesthrough which people also experience increases in such traits asconscientiousness and emotional stability. Several longitudinal studies on young adults found clear relationships between role experiences and personality trait change in particular with social dominance, conscientiousness, and emo-tional stability. These studies (e.g, Roberts, Caspi, & Moffitt,2003; Roberts & Chapman, 2000) lend further support to the idea that age-graded role experiences are in part responsible for the changes reported in young adults (Roberts, Walton, & Viechtbauer, 2006), and environmental factors influence, in turn, the development of trait related to neuroticism (e.g., Shiner, Masten, & Tellegen, 2002; Watson & Casillas, 2003).

4.5 Personality development and interpersonal relationships in young adulthood. Results emphasize the creative power and adaptability of personality during emerging adulthood (Lehnart & Neyer, 2006).

Personality development in young adulthood is characterized by individual patterns of change because young adults differ in timing and rate of maturation. Social relationships change in a way typical for the passage from emerging to young adulthood. Relationships with family members and peers decreased in terms of contact frequency, possibly because a majority of young adults pursue to engage in a partner relationship and to build up one's own family, reflecting that investments in age-graded social roles are indeed normative in young adulthood. Despite these changes, the average level of emotional closeness with family of origin remaine unchanged (e.g., Aquilino, 1999). At the same time, the individual trajectories of family and peer relationships differe markedly. For example, almost each relationship quality is characterized by individual differences in change reflecting the diversity of relationships at the transition from emerging to young adulthood, which makes a difference in personality development. Three main results can be summarized (Neyer & Asendorpf, 2001). First, concurrent associations between personality and relationship reflected that a person's relationships can be viewed as correlates of her basic personality traits with personality effects having in general primacy over relationship effects (Neyer & Asendorpf, 2001).

In particular, the positive qualities of relationships were consistently related with nearly every personality trait suggesting that better-adjusted young adults maintained relationships that were characterized by higher levels of closeness and lower levels of insecurity and conflict (Neyer & Lehnart, 2007).

Correlated change is a kind of personality relationship transaction through which the cumulative stability of both personality and relationships may come about. In particular, young adults who, over 8 years, experienced a decrease in insecurity with peers or family members decreased more than others in neuroticism and related traits, that is to say, self-esteem and shyness (Neyer & Lehnart, 2007). Negative affect and detachment were the best predictors of functional impairment in the college sample. These effects were strongest for interpersonal variables, including *understanding and communicating* and *getting along with people*. This finding is consistent with the notion that individuals who are removed from social situations have less success in them, instantiating a vicious cycle of difficulty developing social skills and further self-selected removal from social situations (keeley et al., 2014).

CHAPTER III

Young adults' psychological complexity

5. Attachment theory

During the past 30 years, attachment theory (Bowlby, 1973) has become one of the most important conceptual frameworks for understanding affect regulation and human relationships (Mikulincer & Shaver, 2007). Attachment theory, that comes from John Bowlby and Mary Ainsworth's studies about the emotional bond between children and their caregiver, can be defined as a dynamic system of attitudes and behaviors that contribute to the formation of a specific link between the child and his caregiver during the early years of childhood. Attachment theory can be seen as a biopsychosocial model, since it refers to a person's characteristic ways of relating in close relationships, such as with parents, children, and romantic partners (Lorenzini & Fonagy, 2013), that are learned during early infancy and mold subsequent intimate relationships and depend on both genetic and environmental factors. Twin studies have shown that genetic factors account for 45% of individual differences in adult attachment anxiety, 36% in attachment avoidance (Picardi A, Fagnani C, Nistico L, Stazi, 2011) and between 23% and 45% in attachment Security (Lorenzini & Fonagy, 2013). Nevertheless, environmental factors appear to be the most important influence in the development of attachment, most of all effective primary caretaker who is sensitive to the infant's verbal and nonverbal cues and is able to respond to them without being overwhelmed by anxiety (Lorenzini & Fonagy, 2013). Secure attachment and adaptive functioning are promoted by a caregiver who is emotionally available and appropriately responsive to her child's attachment behavior, as well as capable of regulating both his or her positive and negative emotions (sable, 2008). This process equips the infant with an increasing capacity for mental processing, particularly mentalization, in terms of the capacity to understand the social world and one's internal world in terms of mental states(Allen JG, Fonagy P, Bateman, 2008; Fonagy P, Bateman, 2008; Fonagy, Target,M., Gergely,G., Allen, J.G., & Bateman 2003; Fonagy & Target, 2005, 2006; Slade A, Grienenberger J, Bernbach E, Levy D, Locker, 2005). This capacity means that individuals with a healthy personality interpret and respond to another's feelings, not just to their own experience.

According to Bowlby's theory (Bowlby, 1988), the quality of early interactions with caregivers provide a context for infants to develop cognitive-affective representations (i.e., internal working models; IWMs) of self and others, and a frame in which they learn to organize and regulate emotions. These IWMs presumably become more generalized over time, and come to guide the individual's expectations and behavioral inclinations in future relationships.

These representations are social cognitive schemata that include beliefs about the self, as well as expectations about interpersonal relationships, and their quality determines an individual's attachment style (i.e., *secure* versus *insecure* attachment patterns).

From birth, the interactions of an infant with his/her primary caregivers will establish a base for personality development and will mold subsequent close relationships, expectations of social acceptance, and attitudes to rejection. A secure base is formed when the attachment figure (usually the mother) provides stability and safety in moments of stress, which allows the infant to explore his/her surroundings. Thus, the child creates a set of mental models of him/herself and others in social interactions ("internal working models"), based on repeated interactions with significant others (Bowlby, 1973). These early attachment relations are crucial for the acquisition of capacities for affect and stress regulation, attentional control, mentalization, and for the infant's sense of self-agency (Fonagy P, Luyten P, Bateman A, Gergely G, Strathearn L, Target M, Allison, 2010).

When a parent is available and sensitive, the infant learns that he or she can effectively use his or her caregiver as a secure base in times of uncertainty and, in doing so, develops the ability to effectively engage the object world. In contrast, children who come to expect caregivers to be unavailable or ineffective develop insecure strategies for coping with their distress. Bowlby suggested that these early representations become mentally integrated in the form of internal working models that are carried forward into childhood, adolescence, and adulthood. More specifically, attachment variations are often conceptualized as self-regulation strategies, guiding individuals' responses to threatening situations (Kobak, Cassidy, Lyons-Ruth, & Ziv, 2006). According to this view, when one perceives danger, the attachment behavioral system becomes activated to guide coping. In the face of such threats, security provides a critical foundation

for acknowledging distress, turning to others for support, and effectively adjusting. Insecurity, on the other hand, reflects the ineffective regulation of distress, which can lead to maladjustment. Because individual attachment representations act as prototypes or heuristic guides in later social interactions and conceptualizations of self, they are self-perpetuating and tend to persist into adulthood as general representations with respect to close relationships (Fraley, 2002; Shaver & Mikulincer, 2005).

Moreover, attachment theory has been described as a theory of personality in which cognitive, emotional, and behavioral patterns rooted in early relational experiences with primary caregivers become enduring aspects that define individuals' views and experiences of themselves, and then generalize to adult relationships later in life (Bowlby, 1988; Bateman & Fonagy, 2009; Lopez & Brennan, 2000; Shaver & Mikulincer, 2002). These patterns also influence an individual's view of self and others and define modes of capacity for intimacy affective experiences and expression, all of which are articulated in patterns of interpersonal behaviors and ability to function effectively in society. Bowlby (1969) posited that individuals develop their own "internal working models" to understand the external world, and interactions with other people. Early attachment experiences actually influence brain development, later affect regulation and capacity to make these ties secure (Fortuna & Roisman, 2008; Sable, 2008).

Despite the attention in attachment research and study was initially given to early experiences of the early stages of life, then the concept of attachment was extended to the whole life cycle, "from cradle to the grave" (Bowlby, 1979). The theory elaborated by Bowlby and developed in subsequent decades emphasizes the presence of a link between early relational experiences of the child with his caregiver and psychological structures that develop along the life course until adulthood (Maione - Franceschina , 2002). Schore (1994, 2003a,b) contends that though the brain retains some plasticity throughout life, the quality of early caregiving has a particularly significant impact on its development, structure and functioning.

Attachment theory (Bowlby, 1969/1982, 1973, 1980) describes the development of a secure attachment relationship as a salient developmental task that has implications for later psychological well-being.

Sroufe and Rutter (1984) explain that being insecurely attached early on may not be pathological per se, and can even be conceptualized as adaptive in the context of a given attachment relationship. Nonetheless, insecure strategies compromise a child's ability to flexibly respond to changing environmental circumstances. To the extent that such early adaptations compromise one's ability to cope with challenging life experiences, they may eventually either lead to or provide a diathesis for psychopathology (e.g., Warren, Huston, Egeland, & Sroufe, 1997; Carlson, 1998). However, as predicted by Bowlby (1988), research suggests that attachment styles can be modified as a result of major life events or significant changes in relationships (e.g., Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Thus, attachment styles have their earliest roots in relationships with caregivers, but they are amenable to revision well into adulthood based upon environmental input (Scott, Levy, & Pincus, 2009).

Nonetheless, a complementary way of studying attachment security and its implications is by examining adults' states of mind regarding earlier relationships with caregivers, as well as their evaluations of current attachment-related experiences. Rutter and Sroufe (2000), for example, raised the concern that too little attention had been focused on developmental psychopathology in the transition years, and called to extend attachment concepts into adulthood. Indeed, what may matter most in predicting current maladjustment is the residue of early experiences as shaped by later development.

Two relatively independent lines of research in the field of psychology focus on adult attachment (Roisman et al., 2007). Despite having roots in a common theoretical tradition, these two approaches operationalize variation in adult attachment constructs in methodologically and conceptually distinct ways (see Simpson & Rholes, 1998). One culture, better represented in the field of social-personality psychology, employs self-report measures that require adults to describe their attachment-related thoughts and feelings in their adult relationships (see Cassidy & Shaver, 1999). The second culture, better represented in developmental psychology, uses the Adult Attachment Interview (AAI) to infer individuals' current states of mind regarding attachment based on the coherence of their narratives about childhood relationship experiences with caregivers (George, Kaplan, & Main, 1985; Hesse, 1999). Results of a recent meta-analysis (Roisman, Holland et al., 2007) suggest that these two approaches used to quantify adult attachment-related individual differences share only trivial to small empirical overlap by Cohen's (1992) criteria (mean r = .09, metaanalytic N = 961). Even more critically, studies comparing social and developmental measures of adult attachment have begun to demonstrate that these measures seem to tap different aspects of attachment ''security'' (Bouthillier, Julien, Dube, Belanger, & Hamelin, 2002; Creasey & Ladd, 2005; Roisman, Holland et al., 2007; Simpson, Rholes, Orin˜ a, & Grich, 2002). One crucial conceptual difference is that, in the AAI, scoring does not rely on the content of

narratives, but on their formal aspect (i.e., it does not take participants' reports about attachment experiences at face value; Roisman, Padro´ n, Sroufe, & Egeland, 2002; Roisman, Fortuna, & Holland, 2006). In contrast, selfreport measures of attachment by definition reflect participants' appraisals of their attachment-related experiences.

Bowlby (1969) also emphasized that the potential for attachment difficulties or disruptions to activate ''attachment behavior does not disappear with childhood but persists throughout life'' (p. 350). Although elicited with less urgency, the need to maintain contact with attachment figures and to especially seek them out when stressful situations arise is a hallmark of attachment throughout the whole life cycle (sable, 2008). The means of achieving proximity and communication become developmentally more organized, diverse and sophisticated, and attachment behavior becomes directed to persons and groups beyond the family, but the conditions that elicit the behavior do not change. At times of threat, danger, separation or loss, adults are likely to seek emotional support and protection from affectional figures (sable, 2008).

In his classic trilogy, *Attachment and Loss*, Bowlby (1982/1969, 1973, 1980) developed an ethological theory concerning the regulatory functions and consequences of maintaining proximity to significant others. He argued that infants are born with a repertoire of behaviors (*attachment behaviors*) aimed at seeking and maintaining proximity to supportive others (*attachment figures*). In his view, proximity seeking and attachment figure's availability are inborn affect-regulation devices (*primary attachment strategy*) designed to protect an individual from physical and psychological threats and to alleviate distress. Bowlby (1988) claimed that the successful accomplishment of these affect-regulation functions results in a sense of attachment security—a sense that theworld is a safe place, that one can rely on protective others, and that one can therefore confidently explore the environment and engage effectively with other people. According to Bowlby (1982/1969), proximity-seeking behaviors are parts of a universal adaptive behavioral system (*attachment behavioral system*). This system emerged over the course of evolution because it increased the likelihood of survival of human infants, who are born with immature capacities for locomotion, feeding, and defense. Because infants require a long period of care and protection, they are born with a repertoire of behaviors that maintain proximity to others who are able to help regulate distress. Although the attachment system is most critical during the early years of life, Bowlby (1988) assumed that it is active over the entire life span and is manifested in thoughts and behaviors related to support seeking. Attachment is an inborn system that motivates an infant to seek proximity to a care-giving adult. About individual differences in the functioning of the system, Interactions with significant others who are available, sensitive, and responsive to one's attachment needs (*attachment-figure availability*) facilitate the optimal functioning of the system and promote the formation of a sense of attachment security (Bowlby, 1973). As a result, positive expectations about others' availability and positive views of the self as competent and valued are formed, and major affect-regulation strategies are organized around these positive beliefs. Otherwise, Insensitive and frightening caregiving are related to insecure (i.e., avoidant and ambivalent) attachment (e.g., De Wolff & van IJzendoorn, 1997; Madigan et al., 2006; Main & Hesse, 1990), and to negative representations of self and others, and strategies of affect regulation other than proximity seeking (*secondary attachment strategies*).

Contemporary attachment formulations converge to suggest that the attachment system may be thought of as a biologically based and evolutionary determinedmulti-modular behavioral system that is activated as a result of threats to attachment relationships (such as loss and separation), and involves the coordination of different subsystems aimed at reducing distress through seeking proximity of attachment figures (Mikulincer & Shaver, 2007). Shaver and Mikulincer's model of the activation and dynamics of the attachment system (Mikulincer & Shaver, 2007;Shaver & Mikulincer, 2002) integrates recent findings with the earlier theoretical proposals of Bowlby (1982/1969, 1973), and Ainsworth (1991).

A systematic pattern of relational expectations, emotions, and behavior results from the internalization of a particular history of attachment experiences and the consequent reliance on a particular attachment-related strategy of affect regulation (Fraley & Shaver, 2000; Shaver & Mikulincer, 2002). Initially, research on adults was based on Hazan and Shaver's conceptualization of styles in the romantic relationship (adult pair-bonding) domain (Hazan & Shaver, 1987).

Also during adulthood, people with secure attachment relationships typically perceive, experience, and openly communicate both positive and negative feelings. Avoidant attached become uncomfortable with closeness, self-disclosure, and dependency (Shaver & Mikulincer, 2002). In an effort to maintain an engagement with inconsistent caregivers, those with anxious attachments tend to exhibit both a keen attentiveness to and expression of negative

emotions. An excessive, preoccupied, or fearful focus on attachment relationships may develop (Dozier & Tyrrell, 1999; Main, 1990).

Adult attachment dimensions: Attachment theory has identified two dimensions of attachment style based on the individual's view of self and view of others, that is, anxiety and avoidance, respectively, which are expected to influence the type of relationships one engages in and the potential for forming attachments in the interpersonal domain (Bartholomew and Horowitz 1991; Bartz and Lydon 2004; Collins and Read 1994; Pierce & Lydon, 1998).

Adult attachment studies have shown that the attachment avoidance dimension is associated with perception of intimacy as an aversive state and distress arousal during highly interdependent interactions with relationship partners (see Shaver & Clark, 1994; Shaver & Hazan, 1993). These studies also indicate that the attachment anxiety dimension is associated with a sense of helplessness, negative beliefs about the self, and deficits in instrumental behavior (see Mikulincer & Florian, 1998, for a review). Moreover, attachment anxiety tends to be associated with problems in the regulation of affect and cognition, as manifested by the autonomous spread of activation of negative emotions and memories and the chaotic organization of self-representations (e.g., Mikulincer, 1995; Mikulincer & Orbach, 1995). Attachment avoidance reflects a preference for interpersonal distance, discomfort with emotional closeness and dependence on relationship partners (reflecting attachment deactivating strategies), whereas attachment anxiety involves intense worries about the availability and responsiveness of attachment figures, together with strong desires for closeness and safety (reflecting an attachment hyperactivating strategy). The combination of these two underlying dimensions yields four distinct attachment categories. Individuals with high levels of attachment security have low levels of attachment anxiety and avoidance. They value closeness and intimacy, and show a willingness to rely on others. Preoccupied attachment is characterized by high attachment anxiety and low avoidance. Preoccupied individuals tend to lack confidence regarding the reliability of others and show exaggerated desires for closeness. Dismissive attachment is typically associated with low self-reported anxiety and high avoidance. In general, individuals with a dismissive attachment style downplay the importance of attachment relationships and have difficulty trusting others. Fearful (avoidant) attached individuals have high levels of anxiety and avoidance. Although there is a desire for close relationships, intimacy is avoided because of fears of rejection.

Bartholomew and Horowitz (1991) proposed a four-category model that included different combinations of positive and negative beliefs about self and others. Thus, positive beliefs about self and positive beliefs about others was labeled "secure" attachment. "Preoccupied" consisted of negative beliefs about self and positive beliefs about the other sense of unworthiness to receive love, and a belief that others are so good that they will not love them (Hollist & Miller, 2005). Positive beliefs about self and negative beliefs about the other represent the "dismissing" style of attachment; these individuals feel that they are worthy of love but believe that others will reject them. Negative beliefs about self and negative beliefs about the other were labeled "fearful" attachment. This style of attachment was believed charahterized by avoidance of social settings because of the anxiety associated with connecting to others. These four-cathegory attachment classification can also be read in terms of the orthogonal dimensions of anxiety and avoidance: Low attachment anxiety and avoidance correspond with **secure** attachment; whereas, high attachment anxiety and avoidance correspond with **fearful** attachment. Meanwhile, high attachment anxiety and low avoidance correspond with **preoccupied** or anxious-ambivalent attachment, and low attachment anxiety and high avoidance correspond with **dismissing** attachment (Scott, Levy, & Pincus, 2009).

Subsequent adult attachment research such as Hazan and Shaver's (1987) self-report measure of adult romantic relationships have shown that there are certain adult relationships which are felt to be unique and irreplaceable, and which provide a sense of familiarity, companionship and emotional security.

5.2 The role of Attachment in Adult Relationships. Bowlby emphasized that attachment patterns interact with individuals' current circumstances to produce differences in adaptation and functioning (Bowlby, 1988; Weinfield, Sroufe, Egeland, & Carlson, 1999). That is, secure adult attachment is associated with a lower likelihood of experiencing psychological symptoms. Secure attachment may provide adults with an inner resource that shields them from psychological distress

Adult attachment styles connote differences in terms of how individuals perceive themselves and relate to others (Collins & Read, 1990; Feeney & Noller, 1990; Kid, Hamer, & Steptoe, 2011). These differences have been suggested to be particularly pervasive and enduring, with a 68% to 75% correspondence between attachment classification in

infancy and in adulthood because they reflect fundamental characteristics of individuals' internal working models (Bartholomew, 1990; Bowlby, 1988; Fonagy P, Luyten P, Bateman A, Gergely G, Strathearn L, Target M, Allison, 2010). Results show substantial stability in the patterns of attachment from infancy to young adulthood (Allen et al. , 2004; Waters, Weinfield, & Hamilton, 2000).

Attachment between adult partners develops through an elaboration of a specific cognitive representation of the adult relationship. This type of attachment incorporates, partially replacing, attachment schemas developed during infancy and childhood within one's own birth family (Crowell, & Owens, 1998).

Like in early childhood, also adult attachment experiences can alter brain-body processes (Diamond, 2003).

Most conceptions of adult attachment have assumed that different attachment components and experiences are represented by single global cognitive and affective structures that influence relational responding across a variety of specific relationships (Overall, Fletcher, & Friesen, 2003). Different types of relationships should fulfill different attachment needs and therefore should be linked to different attachment concerns and expectations (e.g., La Guardia, Ryan, Couchman, & Deci, 2000; Lewis, 1994). For example, romantic relationships are likely to be more passionate, close, dependable, and exclusive than friendships and familial relationships, and will (usually) be the only source of sexual fulfillment. Similarly, social and exploration concerns may be more relevant to the friendship domain, whereas the familial domain may be characterized to a greater degree by security and nurturance (Overall, Fletcher, & Friesen, 2003). Each interaction partner constitutes a new environment that invokes specific behaviours and experiences. Attachment styles do not generalize across different relationship types or relationship partners. Clearly, different relationship partners affect the attachment quality in a different manner (Lehnart & Neyer, 2006). Hence, the consistencies across several relationship partners should only be small to moderate (Furman, Simon, Shaffer, & Bouchey, 2002). Both relationship partners influence the relationship-specific attachment (Lehnart & Neyer, 2006). People possess multiple attachment representations that differ in specificity, including representations specific to particular relationships (relationship-specific), as well as those that are broader in bandwidth and reflect regularities in attachment orientation across relationships, including global representations that describe attachment orientations across a range of relational contexts (e.g., Pierce & Lydon, 2001) and those that describe attachment orientations in particular relationship domains (domain-specific representations; e.g., Ross & Spinner, 2001; Sibley & Overall, 2007). Measures of domain-specific romantic attachment, in contrast, constitute more specific regularities that describe responding within particular domains.Thus, the global personality based component of the attachment network indirectly influences attachment toward particular persons via more accurate domain-level attachment representations. Results suggest that the attachment representational network is hierarchically structured, and that autonomy and sociotropy capture global regularities in relational responding, which underlie differences in the functioning of the attachment system (sibley and overall, 2010). These results suggest that insecurely attached individuals rely more heavily on general representations, or have poorly elaborated and differentiated relationship specific representations.

Variability in working models across specific relationships and attachment domains may account for the possibility for the 30% of individuals to change in attachment style over periods of 1 week to 2 years (e.g., Baldwin & Fehr, 1995). For example, relationship dissolution reduces attachment security, and the formation of a new relationship can reduce avoidance (Davila, Karney, & Bradbury, 1999; Kirkpatrick & Hazan, 1994). Similarly, increases in relationship satisfaction tend to increase security (Hammond & Fletcher, 1991). In addition, individuals' attachments within specific relationships seem to be determined (in part) by the characteristics of those specific relationships and partners (La Guardia et al., 2000), allowing in some cases relationship-specific attachment representations or working models (Overall, Fletcher, & Friesen, 2003). Anyway, relational responding is the product of an interaction between global and specific attachment representations (Overall et al., 2003). Besides relationship-specific working models representing attachment within specific relationships, individuals possess global working models that represent attachment across a variety of relationships and relationship contexts and generalize across various attachment relationships (Overall et al., 2003).

Pierce and Lydon (2001) showed that relationship-specific working models shaped global models over time. Global attachment representations are unlikely to represent merely a summation of specific attachment relationships; three independent general attachment representations exist for the relationship domains of family, friendships, and romantic partners. This model suggests that individuals hold general attachment working models that operate independently for each relationship domain. This conceptualization is consistent with research showing that

attachmentrelated functions are provided by a variety of relationships (Fraley & Davis, 1997; Trinke & Bartholomew, 1997) while allowing for differences in attachment needs and functions across domains. In addition, domain differentiation prevents the implications of negative experiences from infecting the entire attachment system. However, the postulation of attachment modules that are completely independent across domains is contradicted by the research (e.g., Baldwin et al., 1996; Gerlsma & Lutejin, 2000), that supports m*ultilevel network of attachment representations*, postulating that specific relationship models are nested under relationship domain representations that are, in turn, nested under an overarching global working model, regardless of measurement instruments (standard attachment scales vs. rated relationship exemplars), gender, and relationship status. In fact, attachment styles remain relatively stable during life and do not show gender differences or variations with language or culture (Bakermans-Kranenburg & van IJzendoorn, 2009).

Collins and Read (1994) have described this model as a default hierarchy headed by a global abstract representation of the self and others developed from early relationship experiences, mainly with caregivers and early peers. This global attachment representation acts as the default, or automatic representation, which individuals are likely to use most frequently in times of stress, low availability of cognitive resources, or with unknown and ambiguous relationship partners. However, more specific representations (relationship-domain and relationship- specific working models) also may be activated depending on the relationship or domain context, providing more accurate and (sometimes) more useful attachment information (Overall et al., 2003).

Research underlined positive influence of attachment on psychosocial adjustment. Adults live longer and have happier and healthier lives when they are in lasting, committed relationships (Diamond and Hicks 2004), showing to be less susceptible to psychological and physiological distress, including injury, disease, substance abuse, depression and suicide (Gilbert, 2001; Hazan & Zeifman, 1999). In some situations an adult may be able to reduce distress simply by thinking about an attachment figure but under certain circumstances, these mental representations would not bring relief, and the person requires actual proximity (Mikulincer and Shaver 2007; Sable, 2008).

The working models of adults are cognitive-affective structures that regulate the attachment system by monitoring and managing cognition, feelings and behavior in response to attachment-related situations (Collins et al., 2006). The proximity to a sensitive caregiver ensures the acquisition of efficient and adaptive affect regulation strategies in later life, as in adulthood (Van Assche et al., 2013). The complexity and flexibility of representations built up over years of experience make it possible to think through the details and options for dealing with events; activate attachment behavior to contend with threatening conditions; and assess the intentions and availability of attachment figures (Sable, 2008) In the same way that children use their caregivers for refuge and protection, adults will seek proximity to attachment figures at times of adversity. In fact, attachment-based research has confirmed that a characteristic of secure attachment is ‘‘a capacity to rely trustingly on others when occasion demands’’ (Bowlby 1973, p. 359), a characteristic that Bowlby points out exists in individuals who are truly self-reliant (Sable, 2008).

Although adults do not generally need the regular physical presence of an attachment figure which is required for the young, they do need to know they would have a reliable base available and responsive if they were frightened or ill, wanted advice or reassurance (Sable, 2008).

Age and development result in an increased ability to gain comfort from symbolic representations of attachment figures, even if no one of any age is completely free of reliance on others (Bowlby 1982/1969, 1988; Mikulincer, Shaver, & Pereg, 2003). Adults need to know they have someone looking out for them who would track them down if they did not show up when expected. a sense of attachment security and *security-based strategies* of affect regulation are developed and maintained. These strategies are aimed at alleviating distress and bolstering personal adjustment through constructive, flexible, and reality-attuned mechanisms which also allowed to build a person’s resources for maintaining mental health in times of stress and broadens his or her perspectives and capacities, becoming part of personal strength and resilience (Fredrickson, 2001). In adulthood, attachment-figure availability becomes transformed into a question about the adequacy of internal as well as external attachment-related resources for coping with stress. when internal resources are not sufficient, securely attached individuals is able to depend on actual attachment figures for support. There is a biological imperative for attachment which stays with us throughout life (Sable, 2008; Schore, 2003). The concept of adult attachment is a theoretical attempt to capture the essence of this inherent need and how it leads individuals to form close and enduring bonds that can be counted on for both pleasure and protection (Sable, 2008). Generally, pair-bonds of marriage or other committed relationships are perceived to be the prototypical indication of these attachments (Berscheid, 2006). Though pair- bonds are the most common characterization of adult attachment

(and are likely to also include caregiving and reproductive behavioral systems), there are a variety of relationships that can have the emotional ‘‘force’’ (Stern, 2000) of attachment. Other family members, selective friends, or pets also provide elements of attachment, even though these bonds may not be as extensive as the more physical availability of a romantic partner (Antonucci 1994; Mikulincer & Shaver 2007; Siegel 1999).

Attachment theory is a positive theory, accentuating the evolutionary significance of meaningful affectional relationships (sable, 2008). Moreover, these few specific ties are ‘‘the hub around which a person’s life revolves’’ (Bowlby 1980, p. 442).

Bowlby thought (1988) that belief in the availability and support of an attachment figure represents a significant condition of secure functioning throughout a person’s life. The attachment system results in systematic patterns of interpersonal expectations, emotions, and behaviours that are associated with specific attachment-related strategies to regulate affect (Shaver & Mikulincer, 2002). The attachment styles that take shape during the early years tend to remain stable over time, highlighting a pattern of continuity from childhood to young adulthood (Allen et al., 2004; Hesse, 2008; Waters, Weinfield, & Hamilton, 2000), as well as the potential for change (sable, 2008). Late-life attachment is in theoretically predicted ways associated with indices of intraindividual and interindividual functioning (van assche et al., 2013). People tend to carry forward relational behaviors learned within their family experiences into their interactions with the broader social world, in turn reconfirming their mental models of the self, others, and relationships across the life span (e.g., Weinfield, Sroufe, Egeland, & Carlson, 2008). Attachment changes during life can also be accounted for by significant life events such as changes in relationship status and/or trauma (Johnson, Cohen, Brown, Smailes, Bernstein, 1999; Kirkpatrick & Hazan, 1994; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000; Thompson, 2000).

An adult who is securely attached is capable of adapting to different social contexts and, more importantly, of maintaining an adequate equilibrium between self-regulation and interpersonal regulation of stress (Baumeister, Gailliot, Dewall, & Oaten, 2006).

Attachment theory, conceived by John Bowlby (1969), refers to a person’s characteristic ways of relating in intimate relationships to “attachment figures”, often one’s parents, children, and romantic partners (Levy, Ellison, Scott, Bernecker, 2011; Hazan & Shaver, 1987). Once established, attachment styles are thought to modulate ongoing interpersonal interactions and influence expectations of future relationships.

Research generally supports the proposition from attachment theory that securely attached individuals have better marital relationships (e.g., Bartholomew & Horowitz, 1991; Gallo & Smith, 1999; Kirkpatrick & Davis, 1994; Simpson, 1990). Secure attachment also is predictive of successful con-flict resolution (Kobak & Hazen, 1991), relationship independence, commitment, trust (Simpson, 1990), and positive emotions in marriage (Collins, 1996). Although research has generally found a significant relationship between attachment style and perceptions of relationship quality, the studies typically focus on young couples early in their relationships (Kirkpatrick & Davis, 1994; Simpson, 1990). Research with younger people in relationships finds a significant relationship between all attachment styles and relationship quality (Hollist & Miller, 2005). Once established, this relational security provides a firm foundation, likely increasing resilience to life difficulties. Inversely, insecurely attached individuals are more vulnerable to the effects of contextual stressors, and their attachment styles are unstable. In other words, secure attachment behaviors become more stable and resilient over time. Research has stated that relationships beyond the early years of marriage are characterized by established properties (Miller, 2000). Patterns of interaction in the relationship and general perceptions of the quality of the relationship are established early in the relation-ship and remain over time (Hollist & Miller, 2005). It is probably during these early years that attachment styles and behaviors have the greatest impact on perceptions of the quality of the relationship.

6. Social relationships in young adults

Individual differences in personality development are considerably associated with individual relationship experiences (Neyer & Lehnart, 2007). Also personality disorders, like personality traits, are conceptualized as being stable over time. A personality disorder is “an enduring pattern of inner experience and behavior” that is “stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood” (APA, 2000, p. 689). Empirical support for the temporal stability of personality disorder diagnoses, however, has been very problematic (McDavid & Pilkonis, 1996; Perry, 1993), leading some to even question whether temporal stability should continue to

be a defining feature of a personality disorder (Shea & Yen, 2003). Gunderson et al. (2003) concluded that frequent are cases of sudden and dramatic remission. There are, on average, notable changes in neuroticism and extraversion (declining) and agreeableness and conscientiousness (increasing) between adolescence and age 30 (McCrae and Costa, 2003). There is a continuing (but lesser) decline in neuroticism, extraversion, and openness after age 30, although others suggest that the data indicate instead an increasing continuity of personality as one ages (Roberts & DelVecchio, 2000).

In young adulthood, some kinds of relationship, such as with family of origin and with peers, are continued and molded, reflecting the flux and flow in social networks, whereas other relationships, such as with romantic partners and children, are new and come along with normative life transitions (Neyer & Lehnart, 2007). Ongoing relationships and personality co-develop in a corresponding way because people select and evoke relationship experiences that deepen or accentuate their personality traits. Therefore, relationship experiences do not arise randomly and, in turn, contribute to the cumulative stability of personality (Caspi & Roberts, 2001; Fraley & Roberts, 2005; Roberts & Caspi, 2003).

Personality maturation in young adulthood is associated with forming the first partnership. Relationship effects on personality change during the transition to the first partner relationships in terms of decreases in neuroticism and shyness and and increases in extraversion and self-esteem was observed (Neyer & Lehnart, 2007). The first partner relationship has a long-lasting effect on personality maturation (Neyer & Lehnart, 2007).

Moreover, higher neuroticism and sociability seem to motivate finding a partner. On the one hand, the more neurotic and sociable singles would be highly motivated for social contact, yet, at the same time anxious and insecure (Neyer & Lehnart, 2007). Higher neuroticism in young adulthood is ‘‘adaptive.’’ On the contrary, young adults’ higher neuroticism—paired with sociability—may reflect a motivational disposition longing for change in terms of searching a partner. Neuroticism is associated with being concerned with relationships and being alert to social situations. Thus it is likely that young adults high in neuroticism scan their environment carefully, are more apt to analyze their thoughts and feelings, and are more likely to discuss them with other people (Watson & Casillas, 2003). These singles probably need more time. In the end, however, they may well succeed, and neuroticism will decline.

A stronger social motivation and a higher need for emotional closeness and (insecure) attachment (Neyer & Lehnart, 2007). In comparison, unsociability appears to be associated with a generalized indifference towards relationships. In young adulthood unsociability is a risk factor for later maladaptive development (Neyer & Lehnart, 2007). Unsociability may foretell a developmental path into adulthood that is associated with a risk of enduring unhappiness, a lack of social support, and reduced mental health (e.g., Horwitz, White, & Howell-White, 1996; Lucas, Clark, Georgellis, & Diener, 2003; Waite, 1995), impaired physical health status (e.g., Juster & Suzman, 1995), and reduced longevity (e.g., Hu & Goldmann, 1990). Staying well connected with the family of origin, and with their early attachment figures, young adults invest very little effort in close personal relationships with peers, thereby giving up the exploration of a new environment and of a different phase of life (Maione & Franceschina, 2002).

6.1 Attachment in young adults. Recent high-risk longitudinal studies have documented a unique contribution of the quality of the early mother-child relationship to diverse forms of psychopathology in young adulthood, even with family economic status, later traumatic experiences, and some genetic factors controlled (Lyons-Ruth, 2008).

In these times, young adults, especially from Italy, do not seem to show a stable attitude, which would be consistent with the typical characteristics of secure adult attachment style (Maione - Franceschina, 2002). Young people often leave very late the parental home, and remain to live in protected situations where they have no responsibilities; the acquisition of an adult identity is thus postponed, as well as the moment of separation from the family and the achievement of autonomy. Staying well connected with their family of origin, young adults invest very little in close personal relationships and prefer to stay connected with their early attachment figures, thereby giving up the exploration of a new environment and of a different phase of life (Maione - Franceschina, 2002).

More recent perspectives on the psychological development emphasize that for young adults close attachments with parents during the university can facilitate progress in their individual development, providing the young adult with a "secure base" through which to explore and develop skills in the world outside the family (Lopez - Gover, 1993), also. Overall it was found that positive parenting relationships, besides increasing motivation to achieve in university students (Bal, 2011), also was associated with lower levels of fear of failure (Ammons, 2012).

With regards to attachment anxiety, it was considered, an important factor in increasing stress levels and in reducing the use of coping strategies associated with a reactive coping and be predictive of academical stress (Berger, Ferrans, & Lashley, 2001).

Individuals with dysfunction in romantic relationships are more likely to have dysfunction in other social domains (Hill, Harrington, Fudge, Rutter, & Pickles, 1989), thus, it is unclear if attachment is linked more generally to interpersonal functioning or if there is a specific association between attachment and romantic functioning (Hill et al., 2011). Romantic dysfunction may be a general problem associated with personality disorder; however, Hill and colleagues (2011) found a specific association between preoccupied attachment, romantic dysfunction, distress, other personality disorder symptoms, and nonromantic interpersonal dysfunction.

The development of an attachment relationship towards a romantic partner can be regarded as a normative developmental task during emerging adulthood marking the transformation of dating to committed romantic relationships (Teeruthroy & Bhowon, 2012). Lehnart and Neyer (2006) investigated dynamic transactions between personality and relationship experiences in young adults over a period of 8 years, highlighing the effects of, both, stability and change in the social environment on personality and relationship development. Whereas relationship continuers changed more in terms of personality maturation, relationship changers showed a more diverse pattern of change, especially regarding neuroticism. This pattern of differential stability perpetuated into distinct features of transaction between personality and relationship development (Lehnart & Neyer, 2006). In general, a more consistent and complete pattern of reciprocal influence was observed for continuers rather than for changers, suggesting that young adults' personality development in terms of growth and maturation is more likely to unfold in a stable social environment, of which a continuous partner relationship is an important part (Lehnart & Neyer, 2006). In contrast to research on marital stability (e.g. Karney & Bradbury, 1997; Kelly & Conley, 1987), neuroticism was not a predictor of romantic relationship stability in young adults (Lehnart & Neyer, 2006). Being unsatisfied with a romantic relationship rather than being neurotic led to separation in young adulthood (e.g. Robins et al., 2002), suggesting that the features of the specific relationship are more important for the continuation of a relationship than personality traits. Being dependable on the partner, rather than being dependent, seemed to be an important protective factor for relationship continuation (Lehnart & Neyer, 2006). Young adult's interest in maintening romantic relationships, which also requires commitment and making compromises, made agreeableness start increasing (Lehnart & Neyer, 2006). Reciprocal influences were found for neuroticism and dependency. Similar to the effect of the first stable romantic relationship on neuroticism (Neyer & Asendorpf, 2001), dependency in long-term relationships fortify the stabilizing effect of stable interaction patterns as assumed by the enduring dynamics model (Lehnart & Neyer, 2006). Higher neuroticism on the other hand may reflect lower thresholds for experiencing distressing negative emotions, even after trivial disagreements or conflicts that happen regularly during daily interactions (Donnella, Larsen-Rif, & Conger, 2005, Karney & Bradbury, 1995). This way personality may affect enduring relationship patterns which in turn might influence decreasing dependency on the partner (Lehnart & Neyer, 2006). Individuals tend to reshape and reorganize their instable social environment in accordance with their personality traits. The effect of conscientiousness on dependency seems to reflect the increase of commitment in the new relationship (Lehnart & Neyer, 2006). A different interpretation could suggest that conscientious individuals were more likely to find or select a new relationship partner towards whom they more easily develop increasing dependency (Lehnart & Neyer, 2006).

Stressful conditions within later life relationships, such as conflict, actual or felt pressure to provide caregiving, and role reversal, are likely to trigger attachment behaviour between both parties simultaneously. Attachment relationships are bi-directional, in the sense that either party gives and receives care and protection (Shemmings, 2006). Because some adult children experience a parent's aging or diminishing independence as a form of abandonment, secure base stability is likely to be threatened. Relational pressure could also increase if one person becomes uncomfortable with closeness and then failed to respond to, or rejected, the other person's distress. This might also occur if one partner seeks excessive emotional intimacy or reassurance from the other, especially if s/he then became emotionally withdrawn or demanding were it to be refused. This situation may become magnified if experienced alongside other stressors such as illness, or the death of loved ones, close friends or other relatives (Shemmings, 2006).

From an attachment perspective, another potential stressor is role reversal, described by Shaver and Mikulincer (2004) as 'a process in which older adults with grown children rely on their children to serve some or all of the standard functions of attachment figures'. 'Stress', however, is not necessarily problematic per se because an event 'may have a

very different psychological impact on a person, depending on how the person copes with it' (Zhang & Labouvie-Vief, 2004, p.431). Thus, role reversal 'may create an opportunity to heal old wounds and reconstruct a relationship on more secure terms (Shaver & Mikulincer, 2004). Later life filial attachments may also be experienced stressfully because relational partners are negotiating different developmental lifespan stages. For example, Krause and Haverkamp (1996) note that 'whereas the middle-aged child is challenged by the biological changes of ageing, and the demands of his or her family, as well as financial obligations, the older parent is experiencing changes retirement, decreased health, or the death of a spouse' (p.84). The parent, also face changes in former life roles are often associated with a complementary increase in the importance of family ties as a source of meaning and affirmation (Myers, 1988). Retirement, for example, may bring with parental expectations of increased family involvement, but such hopes may collide with an adult child's life, with regards to his career aspirations and obligations to his own offspring. In European studies, emerging adults who remain at home tend to be happier with their living situations than those who have left home; they continue to rely on their parents as a source of support and comfort, but they also tend to have a great deal of autonomy within their parents' households (Chisholm & Hurrelmann, 1995). Thus, for emerging adults, *autonomy* and *relatedness* are complementary dimensions of their relationships with their parents (O'Connor et al., 1996).

The attachment theory, in fact, suggests that, for young adults who leave home, having parents which represent a secure base can actually provide support, rather than threaten, the development of autonomy and skills. Research on university students showed that attachment behaviors, such as calling home or discussing problems with parents, are of key importance for psychological health and they not indicate dependence or failure of personal growth (Kenny & Rice, 1995; Skowron - Wester & Azen, 2004). On the contrary, students who have tried to break up by force from parents can become, at times, withdrawn, isolated and even at risk for behavioral problems (Wartman - Savage, 2008).

In fact, for students who leave home, having warm and supporting relationships with parents represents a "secure base" through which to explore and develop competence, autonomy, and skills within the world outside the family (Lopez - Gover, 1993), also showing a greater motivation to succeed and lower levels of fear to failure (Bal, 2011).

7. Romantic attachment

The ways in which adults think, feel, and interact in the context of their romantic relationships vary with their attachment styles. Hazan and Shaver (1987) first argued that attachment styles reflect fundamental distinctions in adults' mental representations of romantic love. Securely attached married, co-habitating, dating, divorced, and widowed adults rated their love experiences as happy and trusting, and emphasized being supportive and accepting of their partners. In contrast, avoidantly attached adults described their love experiences as characterized by fears of intimacy. Furthermore, ambivalently attached adults characterized their love experiences as obsessive, involving jealousy and extreme sexual attraction to their partners (Meyers & Landsberger, 2002).

Perhaps the most provocative and controversial implication of Hazan and Shaver's (1987, 1994) adult attachment theory is that a person's pattern of relating to romantic pawners is shaped by his or her history of interactions with parental attachment figures. Hypotheses about the source and degree of overlap between attachment style in relation to parents and attachment style in romantic relationships have been controversial (Baldwin & Fehr, 1995; Cassidy, 2000; Duck, 1994; Hendrick & Hendrick, 1994; Klohnen & Bera, 1998; Owens et al., 1995). Hazan and Shaver (1987) found that adults who were secure in their romantic relationships were more likely to recall their childhood relationships with parents as being affectionate, caring, and accepting (Feeney & Noller, 1990; Levy, Blatt, & Shaver, 1998). Other studies reveal concurrent overlap between security in the child-parent and romantic domains (Owens et al., 1995). Thus, it seems possible that attachment representations in the child-parent domain and attachment orientations in the romantic relationship domain are only moderately related at best (Fraley & Shaver, 2000).

Partnership relations can be seen as a prototype of adult affective relations (Bowlby, 1988). Observation of partner relations through the lenses of attachment theory begun by the end of the 1980s when Hazan and Shaver published a theoretical article entitled "A biased overview of the study of love", where they explained why partnership can be seen as an attachment process (Hazan & Shaver, 1988).

Hazan and Shaver (1987) used attachment to describe adult romantic relationships. Applying attachment to adult relationships included an adaptation of the three styles (Hollist & Miller, 2005).

The authors argued that adult partners exhibit behavioral characteristics identical to those observed in relations between the child and its caregiver, so that a person feels safer and more secure when his/her partner is nearby; when sad or ill, he/she seeks partner proximity as a source of comfort and protection. They theorized that securely attached

couples had higher marital satisfaction. In fact, research showed that securely attached couples had a lower divorce rate (Brennan & Shaver, 1990), and they reported that securely attached couples described feeling comfortable with emotional intimacy and found joy and satisfaction in close relationships (Hollist & Miller, 2005).

Moreover, the kinds of individual differences observed in child-mother relations are very similar to those observed between partners, because adults enter partnership with the expectations and beliefs that they have formed about themselves and others on the basis of their past affective bonds. These internal working models are relatively stable throughout a person's life. Attachment Anxiety relates to beliefs about self-worth and whether or not one will be accepted or rejected by partner. Shaver and Mikulincer (2002, pp. 135–136) defined attachment anxiety as the predisposition for an "intense need to be close, accepted, supported, and reassured" by attachment figures Attachment Avoidance relates to beliefs about taking risks in approaching or avoiding other people (Želeskov-Đorić & Medjedovic, 2011), reflecting a tendency to be "uncomfortable with closeness, self-disclosure, feelings and expressions of vulnerability, and dependency" in attachment relationships. Collins and Read (1994) were the first to systematically outline how representations of multiple attachment figures are represented and organized, detailing three levels of a hierarchically organized attachment network. Representations summarizing the behavioral contingencies most effective in regulating attachment within relationships with specific persons, such as a current romantic partner (relationship-specific representations), are hypothesized to be nested under more global and abstract representations summarizing the effectiveness of regulatory strategies in different relationship domains, such as romantic relationships in general (domain-specific representations) (Collins & Read, 1994; Overall, Fletcher, & Friesen, 2003). Domain-specific representations are, in turn, nested under more global summaries of the contingencies most likely to apply across all relationship domains (including romantic, familial, and friendship domains). As Collins and Read (1994) suggested, the most global level of the attachment network should resemble a dispositional or trait-like way of responding that is consistent across a wide range of relationships and domains (Mikulincer & Shaver, 2003).

Many adults relationships , such as couple, friends and between adult children and elderly parents relationships, have many points in common with attachment relationships typical of childhood, in particular the need for closeness, the protest at forced separation and the effect of "secure base", that is, the climate of confidence and trust that is established within the relational bond. Despite these similarities, there is a substantial difference between the relational bond, which is created between a child and his parents and between two adults involved in a mutual couple relationship, which is represented by symmetry and reciprocity, typical of adult relationships. Secondly, adults integrate attachment behaviors with sexual ones and those related to taking care of each other (Carli, 1995, 1999; Baldoni, 2005a).

A satisfying couple relationship must include both the expression of sexuality, and emotional support. If both of these aspects are present, then the relationship is characterized by greater openness within the partners and when crises occur, they will be able to face discussions in a more constructive way, characterized by a greater openness to dialogue and more effective strategies in problem solving. Through the couple relationship, individuals are allowed to experiment new possible attachment relationships and to restructure their attachment style on a more secure base, correcting unfavorable aspects of their individual models. Moreover, people who have a secure attachment style are more likely to experience loving relationships characterized by higher levels of interdependence, trust, commitment to the partner and satisfaction in the romantic relationship. Individuals with a secure attachment style are most open towards the partner and are more prone to understanding and to constructive discussions and are also less likely to resort to verbal aggression. In contrast, individuals with anxious / ambivalent attachment have a strong tendency to exert pressure on partners, attempting to dominate the process of solving problems as they present higher levels of hostility, adversary behaviors and tend to be verbally aggressive. In contrast, insecure people demonstrate intimate relationships diametrically opposed to the previous (Simpson, 1990).

Individuals with avoidant attachment (or fearful, depending on the classification) tend not to deal with conflicts and, when such situations happen, they show defensive and withdrawl attitudes (Shi, 2003). Instead, people with anxious attachment tend to put aside their own interests in order to satisfy those of others, trying to avoid "to lose a loved one."

In longitudinal and cross-sectional studies of individuals and relationships, attachment-related anxiety has been shown to decrease over time, but avoidance has not (Klohnen & John, 1998; Mickelson, Kessler, & Shaver, 1997). Thus, it is possible that sensitivity and vigilance to cues of rejection and abandonment decrease as relationships persist, although people continue to use their characteristic strategies for regulating anxiety and intimacy.

Insecure attachment is associated with higher levels of negative affect, especially in the context of romantic relationships (e.g., Feeney & Kirkpatrick, 1996; Simpson, 1990). Insecure attachment style also predicts increased vulnerability to affective disorders, including depression and anxiety (e.g., Hankin, Kassel, & Abela, 2005; Roberts,

Gotlib, & Kassel, 1996). A few studies have found that securely attached individuals do experience more positive emotion than insecurely attached individuals, particularly in the context of romantic relationships (e.g., Simpson, 1990; Torquati & Raffaelli, 2004).

Attachment-**anxious** and preoccupied individuals tend to report feeling intense passion in their romantic relationships, and attempt to attain high levels of intimacy, yet describe romantic partners as untrustworthy, unsupportive, and rejecting (Hazan & Shaver, 1987).

Moreover, individual differences in autonomy and sociotropy predict similar patterns of responding in romantic relationships. Like individuals high in attachment anxiety (e.g., Campbell, Simpson, Boldry, & Kashy, 2005; Collins, 1996), highly sociotropic individuals typically perceive their romantic partners as withdrawing and describe their own behavior in romantic relationships as demanding (Lynch, Robins, & Morse, 2001).

Ambivalent couples "experienced love as obsession, desire for reciprocation and union, emotional highs and lows, and extreme sexual attraction and jealousy" (Hazan & Shaver, p. 515). Ambivalent couples described reluctance to get close to another because of fear that the relationship would end.

In contrast, like those high in attachment avoidance (e.g., Simpson, Rholes, & Phillips, 1996), people high in autonomy generally perceive their partners as demanding and their own behaviors as withdrawing (Lynch et al., 2001), and are more likely to express hostility and withdraw during conflict interactions (Mongrain, Vettese, Shuster, & Kendal, 1998; Zuroff & Duncan, 1999). They described avoidant couples as exhibiting a fear of intimacy, and they found that avoidant indi-viduals frequently reported feeling uncomfort-able getting close to others, thinking that love partners wanted them to be closer than they felt comfortable (Hollist & Miller, 2005).

7.1 Romantic attachment and general functioning. Individuals' selves are uniquely enriched by their relationships with other people (e.g., James, 1890). Romantic relationships, in particular, powerfully influence individuals' sense of who they are (e.g., Agnew & Etcheverry, 2006; Andersen & Chen, 2002; Kumashiro, Rusbult, Wolf, & Estrada, 2006; Mikulincer & Shaver, 2003). Individuals' selves actually expand to incorporate characteristics of their romantic partner into their own idea of who and what they are, thus making their Self-concepts and their partner's self-concepts more similar (e.g., Aron, 2003; Aron & Aron, 1997; Aron, Aron, & Norman, 2001; Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002; Slotter & Gardner, 2009, 2011). One of the individual moderators that may encourage selfconcept malleability could be individuals' experience of attachment anxiety (Slotter & Gardner, 2011). High levels of attachment anxiety predicts individuals being motivated to obtain greater levels of closeness with romantic partners compared to their less anxious counterparts (e.g., Mikulincer & Shaver, 2007). Given this enhanced motivation, it is possible that individuals higher in attachment anxiety may be more motivated to integrate their partner's self attributes into their own self-concept as a vehicle for drawing closer to the partner (Slotter & Gardner, 2011). Of the many relationships that adults engage in during their lives, romantic relationships seem to carry the greatest influence on the self-concept (e.g., Agnew & Etcheverry, 2006; Kumashiro et al., 2006; Lewandowski, Aron, Bassis, & Kunak, 2006; Mikulincer & Shaver, 2003; Murray et al., 2002; Slotter & Gardner, 2009; Slotter, Gardner, & Finkel, 2010). Aron and Aron (1997; Aron et al., 2001) posited that, in romantic relationships, individuals actually incorporate aspects of their partner's self-concept into their own (e.g., Aron, Aron, Tudor, & Nelson, 1991; Slotter & Gardner, 2009). The integration of a romantic partner into the self generally occurs over time as a result of the resources and experiences that romantic partners share (e.g., Aron, 2003); however, the mere motivation to be close to a partner can also prompt the inclusion of the partner into the self (Slotter & Gardner, 2009). Motivational forces, such as the desire to be close to a current or potential romantic partner, can facilitate integration between individuals' self-concepts and that of their partner. Similarly research also demonstrated that other motivational factors, such as commitment, predict enhanced integration between the self and the romantic partner (Agnew, Van Lange, Rusbult, & Langston, 1998). The importance of a romantic relationships is also supported by the dissolution of a romantic relationship as one of the most emotionally distressing events that adults experience (e.g., Monroe, Rohde, Seeley, & Lewinsohn, 1999), in part due to perceived threats to their identity (e.g., Lewandowski et al., 2006; Slotter, Gardner, & Finkel, 2010). Levels of attachment anxiety predict individuals desiring extreme closeness with their romantic partners, and altering their self-concepts to integrate their relationship partner's is one established way to enhance closeness (e.g., Aron et al., 1997; Murray et al. 2002). Individuals who experience elevated attachment anxiety should ideally desire greater integration between their own and a partner's self-concepts, compared to their less anxious counterparts. The self-concepts of individuals who experience high levels of attachment anxiety should also be more vulnerable to confusion should their relationship end than the self-concepts of their less anxious counterparts (Slotter et al., 2010).

Pecifically referring to romantic relationships, Research generally supports the proposition from attachment theory that securely attached individuals have better marital relationships (e.g., Bartholomew & Horowitz, 1991; Gallo & Smith, 2001; Kirkpatrick & Davis, 1994; Simpson, 1990). Secure attachment also is predictive of successful con-flict resolution (Kobak & Hazen, 1991), relationship independence, commitment, trust (Simpson, 1990), and positive emotions in marriage (Collins, 1996). Although research has generally found a significant relationship between attachment style and perceptions of relationship quality, the studies typically focus on young couples early in their relationships (Kirkpatrick & Davis, 1994; Simpson, 1990). Research with younger people in relationships finds a significant relationship between all attachment styles and relationship quality (Hollist & Miller, 2005). Once established, this relational security provides a firm foundation, likely increasing resilience to life difficulties. Inversely, insecurely attached individuals are more vulnerable to the effects of contextual stressors, and their attachment styles are unstable. In other words, secure attachment behaviors become more stable and resilient over time. Research has stated that relationships beyond the early years of marriage are characterized by established properties (Miller, 2000). Patterns of interaction in the relationship and general perceptions of the quality of the relationship are established early in the relation-ship and remain over time (Hollist & Miller, 2005). It is probably during these early years that attachment styles and behaviors have the greatest impact on perceptions of the quality of the relationship.

7.2 Relationship between adult and romantic attachment. Attachment in adult romantic relationships has been intensively investigated (e.g. Collins & Read, 1990; Feeney & Noller, 1996; Hazan & Shaver, 1990; Kachadourian, Fincham, & Davila, 2004; Su¨mer & Cozzarelli, 2004).

In their seminal article, Hazan and Shaver (1987) translated Ainsworth's (Ainsworth, Blehar, Waters, & Wall, 1978) three infant attachment styles into relationship patterns characteristic of adult love and reported that adults characterized by these romantic attachment styles varied in their experience of romantic love in a consistent manner with attachment theory (Onishi, Gjerde, & Block, 2001). The central propositions of Hazan and Shaver's article regarded (1) *1. The emotional and behavioral dynamics of infant-caregiver relationships and adult romantic relationships are governed by the same biological system*. Hazan and Shaver observed that adult romantic relationships are characterized by dynamics similar to those of parent-child relationship. For example, adults typically feel safer and more secure when their partner is nearby, accessible, and responsive. Under such circumstances, the partner may be used as a "secure base" from which to explore the environment (or engage in creative projects as part of leisure or work; Hazan & Shaver, 1990). When an individual is feeling distressed, sick, or threatened, the partner is used as a source of safety, comfort, and protection. *2. The kinds of individual differences observed in infant-caregiver relationships are similar to the ones observed in romantic relationships.* Specifically, Hazan and Shaver argued that the major patterns of attachment described by Ainsworth (secure, anxious-ambivalent, and anxious-avoidant) were conceptually similar to the "love styles" observed among adults by Lee and others (Davis, Kirkpatrick, Levy, & O'Hearn, 1994). When Hazan and Shaver (1987) began their work on romantic attachment, they adopted Ainsworth's three-category scheme as a framework for organizing individual differences in the way adults think, feel, and behave in romantic relationships. Specifically, they argued that three qualitatively distinct types of romantic, or pair-bond, attachment exist: secure, anxiousambivalent, and avoidant. These descriptions were based on a speculative extrapolation of the three infant patterns summarized in the final chapter of the book by Ainsworth et al. (Ainsworth¸ Blehar, Waters, & Wall, 1978). Respondents were asked to think back across their history of romantic relationships and indicate which of the three descriptions best captured the way they generally experienced their romantic relationships. In sum, from Hazan and Shaver's perspective, romantic love can be understood in terms of the mutual functioning of three behavioral systems: attachment, caregiving, and sex. Although each system serves a different function and has a different developmental trajectory, the three are likely to be organized within a given individual in a way that partly reflects experiences in attachment relationships. Attachment theorists have proposed a variety of features that distinguish attachment relationships from other kinds of relationships (Ainsworth, 1982, 1991; Hazan & Zeifman, 1994; Weiss, 1982, 1991). Three functions or features reappear in various taxonomies. First, an attachment bond is marked by the tendency for an individual to remain in close contact with the attachment figure. That is, the attachment figure is used as a target of proximity maintenance, and separations, when they occur, are temporary and typically met with some degree of distress or protest. Second, an attachment figure is used as a safe haven during times of illness, danger, or threat. In other words, the attached individual uses the attachment figure as a haven of safety, protection, and support. Third, an attachment figure is relied on as a secure base for exploration. The presence of the attachment figure promotes feelings of security and confidence, thereby facilitating uninhibited and undistracted exploration.

In their initial studies, Hazan and Shaver (1987) found that people's self-reported romantic attachment pattern was related to a number of theoretically relevant variables, including beliefs about love and relationships and recollections of early experiences with parents. *3. Individual differences in adult attachment behavior are reflections of the expectations and beliefs people have formed about themselves and their close relationships on the basis of their attachment histories; these "working models" are relatively stable and, as such, may be reflections of early caregiving experiences.* (Fraley & Shaver, 2000). 4. Romantic love, as commonly conceived, involves the interplay of attachment, caregiving, and sex. Although romantic love is partly an attachment phenomenon, it involves additional behavioral systems, caregiving and sex, that are empirically intertwined with attachment but theoretically separable. In infancy, attachment behavior is adaptive only if someone (i.e., a parent) is available to provide protection and support. Typically, a parent provides protection and care to the infant. In adult relationships, however, these roles (attachment and caregiving) are more difficult to separate. Either partner can be characterized at one time or another as stressed, threatened, or helpless and hence as needing responsive, supportive care from the other. Similarly, either partner can be characterized at times as being more helpful, empathic, or protective. In a long-term relationship, the attachment and caregiving roles are frequently interchanged. Sexuality is also of major importance in understanding romantic love. Although there are good reasons to consider attachment and sexual behavior as regulated by different systems, it is difficult to deny that the two systems mutually influence each other. For example, a person may forgo his or her sexual desires or needs when feeling distressed or anxious about the whereabouts of a long-term mate. Similarly, a person may adopt sexual strategies (e.g., short-term mating strategies) that serve to inhibit the development of deep emotional attachments (i.e., serve the function of intimacy avoidance and dependency avoidance).

Evolution and Function of Adult Attachment in Individuals' life. According to romantic attachment theory, many of the behaviors and dynamics that characterize romantic relationships are driven by the same motivational system (the attachment behavioral system) that regulates attachment behavior in infancy. The patterns of behavior observed in infancy and adulthood are considered *behavioral homologies;* that is, they are thought to be rooted in a common behavioral system activated and terminated by the same kinds of conditions and serving the same goals. Shaver et al. (1988) speculated that the attachment system has been "co-opted" by natural selection to facilitate bonding between mates, which may, in turn, facilitate the survival of offspring (Fraley & Shaver, 2000). *Extensions of the original framework.* Hazan and Shaver's (1987) three-category model of individual differences was designed to capture adult analogues of the three attachment types described by Ainsworth and her colleagues. Shortly after Hazan and Shaver's initial studies, however, several concerns were raised about the three-category model. Bartholomew (1990; Bartholomew & Horowitz, 1991), for example, noticed that the avoidant pattern described by Hazan and Shaver conflated two theoretically distinct forms of avoidance, which she called fearful-avoidance and dismissingavoidance. Bartholomew argued that some individuals-those who are fearfully avoidant- adopt an avoidant orientation toward attachment relationships to prevent being hurt or rejected by partners. Dismissing individuals, she suggested, adopt an avoidant orientation as a way to maintain a defensive sense of selfreliance and independence. Bartholomew thus proposed a four-category model of individual differences in adult attachment. She retained the secure and anxious-ambivalent (or preoccupied) classifications from the three-category model but divided the avoidant category into two categories: fearfulavoidance and dismissing-avoidance. She also argued that these four types could be placed within a two-dimensional space defined by the valence of people's representational models of the self and others. Specifically, secure individuals were characterized as holding positive representations of the self (e.g., viewing themselves as worthy and lovable) and of others (e.g., viewing them as responsive and attentive). Within this framework, each of the four attachment types results from a unique combination of positive and negative models of the self and others. A second limitation of the three-category model was uncovered by Levy and Davis (1988). Working with continuous ratings of the three categorical descriptions, Levy and Davis found that the ratings of the secure and avoidant patterns were much more negatively correlated than the ratings of the secure and anxious ambivalent types, suggesting a two-dimensional structure. This finding raised questions about the validity of the categorical model of attachment. Subsequently, a "types versus dimensions" debate began (Collins & Read, 1990; Fraley & Waller, 1998; Griffin & Bartholomew, 1994a). Some researchers argued in favor of a typological approach because the types provided organized, functional wholes from which hypotheses about dynamics could be derived (e.g., Brennan & Shaver, 1995; Brennan, Shaver, & Tobey, 1991); others argued in favor of dimensions for psychometric (Fraley & Waller, 1998; Simpson, 1990) or conceptual (Griffin & Bartholomew, 1994b) reasons. Fraley and Waller's analyses indicated that categorical models are inappropriate for studying variation in romantic attachment. The data were more consistent with a dimensional model of individual

differences. The analyses by Brennan, Clark, and Shaver (1998) revealed that individual differences in romantic attachment can be organized within a two-dimensional space. One of the dimensions, which Brennan and her colleagues called *anxiety,* corresponds to anxiety and vigilance concerning rejection and abandonment. The other dimension, which Brennan and her colleagues called *avoidance,* corresponds to discomfort with closeness and dependency or a reluctance to be intimate with others. Empirically, these dimensions map onto the model of self and model of other dimensions, respectively, in Bartholomew's theoretical model. (Fraley, Waller, & Brennan, 2000)

8. Instruments to assess attachment

There are two distinct methodological traditions with regard to the assessment of attachment. The first tradition is rooted in direct observation of attachment behaviors and interview-based measures, whereas the second derives from questionnaire-based approaches. The basic assumptions of, respectively,psychodynamic and psychosocial perspectives are different, and this also results in a difference in the procedure of attachment evaluation. In fact, while in the psychodynamic perspective projective tools , which ask the individual to respond to ambiguous scenes or images are frequently used, in the psychosocial perspective self-report methods are preferred. This methodology provides for the submission of questionnaires where each individual must indicate their agreement or disagreement with various items through the use of Likert scales.

The first tradition is rooted in Bowlby's seminal work (Bowlby, 1969, 1980) and particularly in Mary Ainsworth's and collaborators' Strange Situation assessment procedure (SSP; Ainsworth et al., 1978), a well-known experimental paradigm involving separation and reunion between an attachment figure and the child. Studies with this paradigm, which taps into the core features of attachment and attachment behavior (e.g. proximity seeking and protest after separation), have led to the identification of three distinct attachment patterns: secure, avoidant and resistant. Within the same tradition, research using the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996), a semistructured interview concerning early childhood experiences related to attachment relationships, led to a similar distinction between three organized attachment types in adults. Several tools have been developed to classify the adult attachment pattern. Among these ones, we can find the Adult Attachment Interview (AAI, George, Kaplan & Main, 1985), which results from the psychodynamic strand and focuses on the intrapsychic individual processes. It is a semi-structured and clinic interview that can be administered to adolescents and adults, and with whom you go to investigate the MOI and the psychic defenses of the subject.

Another tool used to evaluate adult attachment is the Adult Attachment Projective (AAP, George, West, Pettem, 1999) which is based on the use of projective methods for the assessment of attachment from infancy to adulthood. As for AAI, including through the AAP is possible to identify the mechanisms of defense that the subject puts in place in order to mitigate the intensity of feelings and emotions caused by visual stimuli to which it is exposed during the test.

Until recently, these two approaches have developed relatively independently. Importantly, studies have shown that these two approaches to the assessment of attachment, i.e., the first approach rooted in research with the SSP and AAI (George et al., 1984, 1985, 1996), and the second rooted in research using self-report measures of attachment, do not necessarily yield similar results. For instance, the association between security of attachment as derived from the AAI (George et al., 1984, 1985, 1996) and attachment dimensions as assessed by self-report is typically small (Ravitz et al., 2010; Roisman, Fraley, & Belsky, 2007).

Some studies suggest that a dimensional approach towards the assessment of attachment - using continuous measures of attachment that focus on the underlying dimensions of attachment anxiety and attachment avoidance - is superior compared to a categorical classification (e.g., Fraley & Waller, 1998). Yet, a recent meta-analytic study suggests that different instruments from within each of these traditions asses different aspects of attachment-related processes (Ravitz et al., 2010; Roisman et al., 2007). Also, there are clear signs of a growing rapprochement between these two traditions (Roisman et al., 2007), although more research in this area is needed.

Over the years, many improvements in the measurement of attachment style have been proposed (e.g., Bartholomew & Horowitz, 1991; Carver, 1997; Collins & Read, 1990; Simpson, 1990). Starting from description of attachment in children, researchers developed various self-assessment instruments to measure attachment in adults (Brennan, Clark,& Shaver, 1998; Collins & Read, 1990). Two attachment dimensions capture tendencies to use hyperactivating strategies indexed by attachment anxiety (such as increasing proximity seeking and eliciting attention from an attachment figure) and deactivating strategies indexed by attachment avoidance (such as withdrawing and suppressing proximity-seeking motivations) in order to regulate attachment insecurity (Mikulincer & Shaver, 2003).

Some of the improvement efforts are based on the assumption that dimensional measures are more accurate and valid than categorical measures; some are based on dimensional theoretical conceptions of the attachment-style domain, which supersede a simple categorical conception. The most influential of the dimensional schemes is Bartholomew's (1990), which posits two essentially orthogonal dimensions, model of self (or attachment anxiety) and model of partner (or attachment avoidance) as the factors defining four adult attachment styles. In 1998, Brennan, Clark, and Shaver in a large factor-analytic study involving virtually all of the self-report attachment style measures proposed up to that time, found that a two-dimensional, continuous measure of attachment style (the Experiences in Close Relationships scale, or ECR), compatible with the conceptual scheme proposed by Bartholomew (1990; Bartholomew & Horowitz, 1991), could represent all of the existing measures while adding considerably to measurement precision. Brennan, Clark, and Shaver (1998) called the two dimensions "attachment related anxiety" and "attachment-related avoidance," the first referring to anxiety about rejection, abandonment, and unlovability, and the second to avoidance of intimacy and dependency. Research has supported this two-dimensional representation of adult attachment (e.g., Fraley & Shaver, 2000).

Self-report measures of attachment anxiety and avoidance designed to tap these cognitive representations therefore reflect individual differences in the specific if...then…behavioral contingencies (Mischel & Shoda, 1995, 1999) that regulate behavior in attachment-relevant contexts.

8.1 Questionnaire-based approaches. Another kind of tools, as opposed to the AAI and the AAP, are based on the perspective of psychosocial attachment, according to which the focus in the assessment of attachment styles should be attributed to the actual individual behavior within his interpersonal relationships, and to individual's aware contents. This perspective is really different from the one coming the psychodynamic perspective, which instead focus the assessment on the more unconscious aspects.

This second assessment approach is rooted in the extension of attachment theory to the study of adult romantic relationships (Hazan & Shaver, 1987). Importantly, within this tradition, attachment is mainly assessed using self-report questionnaires such as and the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994), the Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998), the Experiences in Close Relationships Scale-Revised (ECR-R; Fraley, Waller, & Brennan, 2000), the Adult Attachment Scale (AAS; Collins & Read, 1990). These measures, rather than focusing on behavioral indices of attachment behavior as in the SSP or the content and structure of attachment narratives, as in the AAI (George et al., 1984, 1985, 1996), focus on conscious appraisals of individuals concerning (romantic) relationships. Initially, studies using these measures suggested three attachment styles in adults: secure, dismissing and preoccupied. Research, initiated by Bartholomew and Horowitz (1991), showed a differentiation within the dismissing attachment style, leading to a distinction between four attachment styles: secure, preoccupied, dismissing and fearful-avoidant. Research in this area, however, has increasingly focused on dimensions underlying these attachment styles. Thus, instead of the more categorical approach typical of research based on the SSP (Ainsworth et al., 1978), AAI (George et al., 1996) and similar instruments (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010), attachment has been predominantly conceptualized within this tradition as involving two central dimensions presumed to underlie attachment behavior, namely attachment anxiety and attachment avoidance (Bartholomew & Horowitz, 1991), which lead to the classification of four dimensions osf secure, preoccupied, fearful and avoidant attachment styles.

9. Relationship among attachment, personality, and psychosocial adjustment

PDs are often associated with insecure attachment styles (e. g., Bender, Farber, & Geller, 1997; West, Keller, Links, & Patrick, 1993; West & Sheldon-Keller, 1994).

Attachment theory overarches the psychological, psychiatric, social, and neuroscientific work on PDs (Lorenzini & Fonagy, 2013). The relation between attachment and personality can be understood in terms of relating to others, exploring the surroundings, and regulating emotions and affects. These concepts are all attachment-related, but can also be considered as inherent aspects of personality (Fransson, Granqvist, Bohlin & Hagekull, 2013), presumably because attachment theory portrays the mind as inherently relational, rather than as made up by general traits.

Another link between attachment and personality is that personality in adulthood is partially influenced by nurture, as represented by attachment (Fransson, Granqvist, Bohlin & Hagekull, 2013). Nevertheless, early experiences with attachment figures may serve as a foundation for the acquisition of a broad range of future abilities, such as social skills, emotion regulation capabilities, and exploratory behaviors (e.g., Sroufe et al., 2005;Weinfield et al., 2008), that

are presumably linked to personality development. Links between attachment and the specific dimensions of the FFM can be theoretically substantiated. Presumably through its association with a positive view of the self as a worthy and capable agent and of others as responsive to the self, attachment security is linked to increased sociability, that are, in turn, core constituents of extraversion (e.g., Main & Weston, 1981; Schneider, Atkinson, & Tardiff, 2001), and to aspects of relational skills, such as cooperation and reciprocity, which are core constituents of agreeableness (e.g., Bohlin, Hagekull, & Rydell, 2000; Sroufe et al., 2005).

Then, attachment experiences in childhood would be important factors in the development of many features of the adult personality such as emotionality, sociability, curiosity, trust and cooperation (Marušić, Kamenov & Jelić, 2011).

Studies show that attachment security is negatively correlated with neuroticism and positively correlated with extraversion, agreeableness, and conscientiousness. Secure attachment in adult personality is reflected in higher extraversion, conscientiousness, openness, self-confidence and will-others, as well as a lower negative emotion in lifetime (Hagekull & Bohlin, 2003; Reti et al., 2002). Inability to regulate emotions, typical of insecure attachment styles, does not allow living successfully interpersonal relationships, which, making individuals not able to adequately manage separation anxiety, can give rise to maladaptive personality traits (Sable, 1997).

Attachment anxiety is moderately to strongly correlated with neuroticism and not correlated with openness. Attachment avoidance has been modestly to moderately correlated (negatively) with extraversion and agreeableness, but not correlated with openness. Some studies, but not others, have found avoidance to be positively correlated with neuroticism and negatively with conscientiousness.

There are several potential pathways through which personality traits or temperament might help to shape an individual's interpersonal environment and quality of attachment relationships (e.g., Caspi & Bem, 1990; Caspi & Roberts, 1999).

The stability of the environment is a potential condition of personality stability (Sameroff, 1983): Not traits are the source of stable behavioural patterns, but the stable environmental conditions in which an individual lives are. Consequently the observed level of stability can be regarded as an artefact of the environmental stability.

Some personality patterns are associated with stable environments whereas others are associated with instability or change (Lehnart & Neyer, 2006). Stability and change of personality traits are prerequisites and consequences of dynamic transactions between a person and his/her relationship experiences (Lehnart & Neyer, 2006). The life course can be reconstructed as a sequence of relationship transitions (e.g. Caspi et al., 1989; Elder & Shanahan, 2006) because people are embedded in important social or relationship contexts through their lives (Cooper, 2000). Finding a partner and obtaining a satisfying and stable relationship is an important goal for many people (Roberts & Robins, 2000). Personality development in the context of partner relationships was related to neuroticism, negative emotionality, but occurred also in other traits such as agreeableness and conscientiousness (Lehnart & Neyer, 2006). Second, attachment in romantic relationships in young adulthood emerged as very important (Lehnart & Neyer, 2006). Third, personality development does not occur independently of environmental influences. On the contrary, stability and change of relationships establish environmental contexts that diversify personality-relationship transactions (Lehnart & Neyer, 2006).

Personality maturation was markedly associated with increasing attachment security (Lehnart & Neyer, 2006). Similarly, increasing satisfaction with the romantic relationship came along with becoming more agreeable and emotionally stable (Lehnart & Neyer, 2006). Neuroticism emerged as the trait that is most strongly related to relationship experiences (Karney & Bradbury, 1997; Robins et al., 2002; Watson & Casillas, 2003). Several studies have shown that personality change is associated with social experiences (Lehnart & Neyer, 2006). Especially new relationship experiences such as new partnerships can be regarded as a catalyst of personality development. Neyer and Asendorpf (2001) reported that the transition to the first stable romantic relationship was associated with the maturational trend of decreasing neuroticism, that is internalizing symptoms. Satisfying relationships were related to decreasing negative emotionality (Robins et al., 2002) and to an increase in conscientiousness (Roberts & Bogg, 2004). Robins et al. (2002) found that being in a dissatisfying relationship was associated with becoming more anxious, alienated and angry. Lower satisfaction have been shown to be related to increasing neuroticism from age 21 to 52 (Roberts & Chapman, 2000), and a slower rate of increase in social dominance in young adulthood (Roberts, Helson, & Klohnen 2002). With specific regards to attachment, more securely attached individuals increased in conscientiousness, became more reliable, responsible, self-controlled, and task- and goal-oriented (Roberts et al., 2003). Stable relationships are a context of personality development.

Attachment theory would predict that the attachment system serves important self-regulatory functions, and that insecure attachment patterns may give rise to chronic negative affect (Fonagy, 1991; Levy, 2005), trait neuroticism and extraversion (Eggert, Levendosky, & Klump 2007), and impulsive and aggressive traits (Fossati, Feeney, Carretta, Grazioli, Milesi, Lionardi et al., 2005), mediating the relationship between attachment styles and psychopathological symptoms and disorders (Scott et al., 2009). Social cognitive biases, associated with insecure adult attachment patterns (e.g., Horppu & Ikonen-Varila, 2001; Meyer et al., 2004; Mikulincer & Shaver, 2001; Niedenthal, Brauer, Robin, & Innes-Ker, 2002) and may directly relate to the occurrence of chronic negative affect and impulsivity (Scott, Levy, & Pincus, 2009). Several studies have shown that insecure attachment patterns are related to high trait levels of negative affect or neuroticism (e.g., Adam, Gunnar, & Tanaka, 2004; Hagekull & Bohlin, 2003; Shaver & Brennan, 1992; Stams, Juffer, & van IJzendoorn, 2002) as well as aggressive behavior (Lyons-Ruth, 1996), anger (Mikulincer, 1998b), heightened emotional distress and anxiety when accessing negative memories (Mikulincer & Orbach, 1995), and heightened cortisol reactivity in response to psychosocial stress (e.g., Gunnar, Brodersen, Nachmias, Buss, & Rigatuso, 1996; Hertsgaard, Gunnar, Erickson, & Nachmias, 1995).

The dimension security–anxiety is significantly correlated with personality traits in romantic relationships (Lehnart & Neyer, 2006). In the study by Asendorpf and colleagues (Asendorpf , Banse, Wilpers, & Neyer, 1997), more extraverted, more agreeable, and more conscientious persons were more securely attached to their partner. The reverse was true for neuroticism, that was negatively related to attachment security. The dynamic-transactional model of personality and relationship development assumes that the change in attachment resulting from partner change can serve as a basis for personality change (Lehnart & Neyer, 2006). Even if studies reported that the personality and relationships influence each other over time (Lehnart & Neyer, 2006), many studies highlighted that relationship experiences may have effects on further personality development (Caspi et al., 1989; Caspi & Roberts, 2001; Lehnart & Neyer, 2006).

Self-report measures of attachment are better predictors of relational skills than are measures of personality traits (Noftle & Shaver, 2006). Adult attachment style has profound implications for emotional experience, because the internal working models of self and other that underlie attachment style help organize emotional responses to events in the social and material environment (Fraley & Shaver, 2000; Griffin & Bartholomew, 1994; Hazan & Shaver, 1987). Adults tending toward secure attachment styles have positive working models of their own desirability and worth in relationships, as well as of others' trustworthiness and support. Secure attachment provides the psychological foundation for exploring the material environment and taking advantage of new opportunities, as well as enhancing the experience of close relationships (Ainsworth, 1982; Bowlby, 1979). Adults tending toward attachment anxiety are less confident about their own value as relationship partners, and are more vigilant for signs of betrayal or abandonment (Fraley & Shaver, 2000). Adults tending toward attachment avoidance are less convinced of the value of intimate relationships, and generally avoid getting close to others. Some studies suggest that attachment-avoidant individuals have suppressed their attachment systems, so that separation distress is no longer a threat (e.g., Kobak, Cole, Ferenz- Gillies, Fleming, & Gamble, 1993), although other studies suggest that this suppression requires constant maintenance, collapsing under high cognitive load (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000). Reserach findings are consistent with evidence that attachment and temperament are distinct constructs, although temperament may influence the *expression* of attachment in behavior (Levy, 2005; Scott, Levy, and Pincus, 2009). Moreover, disturbed attachment patterns may explain unique variance in BPD features with regard to relational and identity disturbance that cannot otherwise be explained by trait negative affect and impulsivity (Scott, Levy, & Pincus, 2009). There are consistent and theoretically meaningful associations between the attachment-style and personality trait measures, but attachment-style dimensions still predict relationship quality better than measures of the Big Five (Noftle & Shaver, 2005).

9.1 Social relations and psychosocial adjustment in young adults. Young adults' psychological well-being is influenced by psychological variables such as personal development, motivation, optimism, self-esteem, and a balance between positive and negative emotions, with higher levels of positive ones (Perez , 2012). Also quality and significance of interpersonal relationships are a necessary component of psychological well-being (Furnham & Cheng, 2000; Ryff and Singer, 1998). Positive and trusting interpersonal relationships indicated better psychological well-being in young adults (Perez, 2012). Young adults who showed high levels of attachment security, in terms of parent-child supportive relationships, warm and pulling for autonomy, also reported higher psychological, emotional and social well-being (Wei, Russell, Zakalik, 2005), also in terms of emotional regulation (Love et al., 2009) while those with insecure attachment were prone to emotional stress, often resulting in maladaptive psychological development, with increased levels of

anxiety and depression in college students (Klein & Pierce, 2009; Love et al., 2009; Yamawaki et al., 2011). Loving parenting practices during childhood could be a crucial factor for psychological well-being of young adults, while parenting overprotection and invasiveness negatively influenced adult individuals' trust in self and others, and were associated.

Quality of attachment style in young adults can be a protective (or predictive) factor of symptoms vulnerability (Ghobari Bonab & Koohsar Haddadi, 2011). Research shows that individuals with a **secure** attachment present less psychological symptoms, while those who have an insecure attachment have more symptoms (Ivarsson et al., 2010), in particular internalizing ones (Ghobari Bonab & Koohsar Haddadi, 2011). Dozier and Lee showed that, differently from insecure attachment, secure attachment was inversely proportional to the obsessive-compulsive disorder and to psychoticism. **Avoidant** attachment style, that minimize expression of attachment needs, represent a higher risk for externalizing symptoms, like food problems and conduct disorders, while **preoccupied** attachment style, focusing on the discomfort for the availability of the attachment figure (Cassidy, 2000), leads to internalizing symptoms, such as anxiety and depression (Dozier et al., 2008; Ghobari Bonab & Haddadi Koohsar, 2011).

9.2 The role of attachment in psychosocial adjustment. Attachment behavioral system promotes well-being and survival across the entire life course (Fonagy & Luyten, 2009; Mikulincer & Shaver, 2007; Mikulincer, Shaver, & Pereg, 2003; Sbarra & Hazan, 2008). Following the theory of attachment as a regulatory for the experience and expression of affect (Kobak & Sceery, 1988; Mikulincer & Orbach, 1995), those with attachment anxiety tend to be highly expressive of, highly sensitive to, or highly responsive to affect, whereas those with attachment avoidance tend to be less expressive of, withdrawn from, or not entirely aware of their affect (Kobak & Sceery, 1988; Mikulincer & Orbach, 1995).

Psychological distress as a mediator (Meyers & Landsberger, 2002). Secure attachment has been proposed to be an inner resource associated with effective coping and greater psychological well-being, whereas avoidant and ambivalent attachment may place adults at a higher risk for maladaptive coping and psychological distress (Mikulincer & Florian, 1998). Securely attached men and women use social support as a general coping mechanism significantly more often than insecurely attached adults (e.g., Davis et al., 1998 ; Feeney, 1998; Mikulincer, Florian, & Weller, 1993;Mikulincer & Florian, 1998). Insecurely attached adults generally use less adaptive coping strategies to deal with stressful experiences, rely on self-blaming defenses, distancing, or passive, emotion-focused strategies (Feeney, 1998; Meyers, 1998; Mikulincer & Florian, 1998) that have a greater likelihood of using problem-focused strategies or support seeking to manage stress and anxiety (Lussier et al., 1997), than securely attached adults which have a more positive view of themselves and report higher levels of self-esteem (Collins & Read, 1990; Feeney & Noller, 1990). Third, the likelihood of experiencing or expressing negative affect varies among attachment style classifications (Meyers & Landsberger, 2002). For instance, adults who differ in attachment style also vary in terms of their level of experienced hostility and anger (Bookwala & Zdaniuk, 1998; Mikulincer, 1998).

Furthermore, adult attachment style has been associated with differing levels of internalizing symptomatology (Meyers & Landsberger, 2002). For example, Carnelley et al. (1994) reported that women with mild depression were more likely to endorse preoccupied and fearful avoidant attachment styles than nondepressed women. Likewise, Hammen et al. (1995) found associations between levels of anxiety and depression and underlying dimensions of attachment, including comfort with closeness, ability to depend on others, and fears of abandonment.

Shaver and Mikulincer (2002) assume that the monitoring of unfolding events results in activation of the attachment system when a potential or actual threat is perceived. This strategy leads people to turn to internalized representations of attachment figures or to actual supportive others, and to maintain symbolic or actual proximity to these figures. In times of need, infants show a clear preference for their caregiver, engage in proximityseeking behaviors, and are soothed by the caregiver's presence (e.g., Ainsworth, 1973, 1991; Heinicke & Westheimer, 1966). a sense of trust in others' goodwill, of self-efficacy in dealing with threats (Shaver & Hazan, 1993), acknowledgment and display of distress, support seeking, and engagement in instrumental problem solving, mental health and effective functioning in times of stress (e.g., Collins & Read, 1994; Mikulincer, 1995; Mikulincer & Florian, 1998). Beyond building a person's resources, the sense of attachment security contributes to the broadening of perspectives, capacities, and skills. The building of these constructive capacities can also inhibit the activation of other maladaptive means of coping, including ruminative and passive emotion-focused strategies, withdrawal and escapist strategies, perceptions distortion and interpersonal conflicts (Mikulincer & Shaver, 2003). People can take risks and engage in autonomy-promoting

activities. In other words, security-based strategies facilitate the development of autonomy and individuality and promote self-actualization.

Insecure individuals are occupied with confronting the distress-eliciting situation and thus have fewer resources available for exploring the environment, focus on interpersonal relationships and caring for others. Attachment insecurity leads to activation of a specific secondary attachment strategy (Shaver & Mikulincer, 2002). The appraisal of proximity seeking as a viable option can result in very energetic, insistent attempts to attain proximity, support, and love. In the literature on attachment, these active, intense secondary strategies are called *hyperactivating strategies* (Cassidy & Kobak, 1988).

Milkulincer (1998) found that when individuals who reported higher attachment anxiety were under stress, they magnified their perceived deficiencies and attempted to engage others to gain their compassion and support..Some authors argued that attachment anxiety can vary, besides across people (at the trait level), also within a given person (at the state level) (Davila & Sargent, 2003; Slotter & Gardner, 2011). Thus, attachment theory can be viewed in part as a theory of interpersonal style in which specific attachment patterns, guided by relational schema, are associated with various interpersonal problems (Horowitz et al., 1993). Stress-evoking interpersonal events prime the relational schema, which guide subsequent perceptions, affective responses, and behaviors (Lopez & Brennan, 2000).

Research shows that attachment anxiety is associated with exaggeration of the appraisal of threats, negative views of the self, and pessimistic, catastrophic beliefs about transactions with other people and the nonsocial world (e.g., Bartholomew & Horowitz, 1991; Mikulincer et al., 2000; Mikulincer, Gillath, & Shaver, 2002). People who score high on attachment anxiety tend to react to stressful events with intense distress and to ruminate on threat-related worries, even when there is no external threat (see Mikulincer & Florian, 1998). They also have ready access to painful memories and exhibit an automatic spread of negative emotion from one remembered incident to another (e.g., Mikulincer&Orbach, 1995).

Attachment avoidance is associated with low levels of intimacy and emotional involvement in close relationships, suppression of painful thoughts, repression of negative memories, lack of cognitive accessibility to negative self-representations, projection of negative self-traits onto others, failure to acknowledge negative emotions, and denial of basic fears (e.g., Fraley & Shaver, 1997; Mikulincer, 1995; Mikulincer & Horesh, 1999; Mikulincer & Orbach, 1995).

While securely attached adults have confidence in developing close, intimate relationships characterized by reciprocal support, care and affection, with an open, flexible style of emotion regulation, that allows to have access to a wide range of emotions and are able to adjust their emotional responses in ways that are appropriate to prevailing situational contingencies in contrast, adults with anxious or preoccupied attachment styles tend to be hypervigilant about their relationships, being sensitive to loss or threat of ruptures in relation to close interpersonal bonds. They seek close proximity to or contact with attachment figures, requiring repeated reassurances that they will not be abandoned. According to Consedine and Magai (2003) 'individuals high in attachment security are said to have' (p.166). Secure attachment is also ' … indicative of the ability to acknowledge and express emotional distress without becoming unduly disabled by it' (p.178). Securely attached people tend to be more tolerant of stressful events because they are less likely defensively to exclude negative and potentially unpleasant feelings from consciousness; neither are they are overwhelmed by any ensuing distress (Shemmings, 2006).

During young adulthood, attachment behaviors become more directed toward special peers (best friends, romantic partners), and a person can serve as a secure base for his or her partner, thereby consolidating more equalitarian and reciprocal patterns of coregulation. Beyond support seeking, security-based strategies include a strong sense of mastery, agency, and self-directedness in dealing with stress as well as problem-focused coping strategies and to build a person's resources for maintaining mental health even in situations of distress, where the support is blocked (Mikulincer & Shaver, 2003). The activation of behavioral systems following attachment security leads adolescents and young adults to distance themselves from their parents and explore the environment on their own, enriching their regulatory skillsand strengthening their sense of mastery threats activate mental representations of attachment figures (Mikulincer, Gillath, & Shaver, 2002), which in turn fosters confident engagement in self-regulatory actions (Mikulincer, Shaver, & Pereg, 2003).

Attachment theory is a useful framework for understanding affect regulation (Mikulincer, Shaver, & Pereg, 2003**)**.

9.3 Attachment and psychosocial functioning. Attachment theory provides a conceptual framework and research methodology from which to understand and assess the maladaptive mental representations of self and others that are hypothesized by many researchers to be integral to the development and maintenance of several psychopathologycal disorders, such as Obsessive compulsive disorder (OCD), Borderline Personality Disorder (BPD), eating disorders, depression, anxiety, body image disturbances, problem eating, and interpersonal problems, both in adults and in young adults (e.g., Cole-Detke & Kobak, 1996; Doron, Kyrios 2005; Ivarsson, Granqvist, Gillberg, & Broberg, 2010; Lorenzini & Fonagy, 2009; Perry, DiTommaso, Robinson, & Doiron, 2007; Riskind et al., 2004; Safford, Alloy, Crossfield, Morocco, & Wang, 2004; Stepp, Morse, Yaggi, Reynolds, Reed, & Pilkonis, 2008; Tasca, Szadkowski et al., 2009; Wei, Vogel, Ku, & Zakalik, 2005). Attachment is to be best understood as an expression of emotional dysregulation (in its subclinical nature) in close interpersonal relationships, and in that sense attachment is a concept whereby one could speak about psychic functioning in the emotional sphere of life (Djoric & Medjedovic, 2011). The early secure attachment with the caregiver should result in a set of adaptive behavioral patterns in the subsequent development of the individual and embodied in higher levels of positive emotions and emotional stability, as well as the quantity and quality of interpersonal relationships. Rather than emotional, social, or relational capacities, secure attachment has been linked to better psychosocial adjustment (Jacobsen, Huss, Fendrich, Kruesi, & Ziegenhain, 1997; Main, 2000).

Individuals with secure attachment styles demonstrate more compassionate responses to others' needs than those with insecure styles (Mikulincer et al., 2001; Shiota, Keltner, & John, 2006).

On the other hand, insecure attachment patterns in infancy might lead, in adulthood, to lack of interest for interpersonal relations or, on the contrary, to higher levels of negative emotionality, uncomfortable intimacy, need for approval, concern in relations with others (Marušić, KameNov, & Jelić, 2011; Barone & Del Corno, 2007). Insecure attachment style accentuates levels of anxiety about separation and loss; even if the individual is oriented toward interpersonal relationships, he shows strong pessimism about possible outcomes of such contact and, as a result, he can sometimes establish inadequate interpersonal relationships (Crichfield et al., 2008).

Anxious individuals should show deficits in love, joy, contentment, and pride (Shiota, Keltner, & John, 2006).

Carver described negative correlations between the traits of Extraversion and Agreeableness and the dimension of Avoidance (Carver, 1997). There were also findings that linked attachment dimensions to other factors from the space of basic personality structure as well. Some studies have demonstrated that Anxiety and Avoidance correlated negatively with Agreeableness, Conscientiousness and Extraversion, and positively with Neuroticism (Gallo, Smith, & Ruiz, 2003; Noftle & Shaver, 2006; Donnellan, Burt, Levendosky, & Klump, 2008). Attachment Anxiety and Avoidance are forms of insecurity, and Neuroticism is also a form of insecurity. Attachment Anxiety is especially related to the depression, vulnerability, and anxiety facets of Neuroticism, which fits with previous findings suggesting that anxious attachment occurs when a person feels inadequately loved and insufficiently in control of interpersonal events. Marušić, Kamenov, & Jelić (2006) have established that Openness correlated negatively with the dimension of Avoidance, in men and women alike, while the dimension of Anxiety was not significantly correlated with it. Attachment Avoidance, which research on both children and adults has shown to be related to suppression of emotion and emotional memories (e.g., Mikulincer & Arad, 1999; Mikulincer, Dolev, & Shaver, 2004), was significantly associated negatively with openness to feelings (Noftle & Shaver, 2006). People with an anxious attachment style tended to be low on assertiveness, suggesting that Attachment Anxiety is negatively related only to the dominance aspect of Extraversion, but not to the sociability aspect (Noftle & Shaver, 2006). Avoidance was also negatively related to Assertiveness in some studies, and lower on warmth, gregariousness, and positive emotions, which Wts with the interpersonal problems commonly observed among those high on Avoidance (Noftle & Shaver, 2006).

Previous studies have pointed out that there is a correlation between romantic adult attachment and basic personality structure (Noftle & Shaver, 2006; Picardi Caroppo, Toni, Bitetti, & Di Maria, 2005; Surcinelli, Rossi, Montebarocci, & Baldaro, 2010). Attachment dimensions represent expressions of basic personality traits in interpersonal Relationships.

This is presumably because a secure attachment relationship liberates mental resources for efficient information processing rather than being occupied with defensive strategies (cf. Bowlby, 1973; Main, 2000). Moreover, conceivably due to a sensitive attachment figure's reliable responsiveness and competent assistance during states of distress, secure attachment is associated with efficient emotion regulation skills (e.g., Cassidy, 1994; Waters et al., 2010), and low levels of neuroticism (Fransson, Granqvist, Bohlin & Hagekull, 2013**).** Finally, as secure attachment is characterized by a

freedom to explore (initially using the caregiver as a secure base), security is linked to openness to experience (Fransson, Granqvist, Bohlin & Hagekull, 2013).

Attachment security is negatively related with neuroticism, and positively related to extraversion and conscientiousness (Noftle & Shaver, 2006; Fransson et al., 2013; Hagekull & Bohlin, 2003; Roisman et al., 2007), Extraversion was between the personality factors most consistently related to attachment (Fransson et al., 2013), in accordance with the assumption that securely attached individuals are more confident in taking place in the social world than insecurely attached ones. Preoccupied attachment was found to be associated with high levels of distress (Pianta, Nimetz, & Bennett , 1997). Because attachment organization has been found to foreshadow a broad repertoire of developmental outcomes (Sroufe, Egeland, Carlson, & Collins, 2005), attachment theory may be a suitable theoretical model also for understanding environmental contributions in the development of personality (Fraley & Shaver, 2008). Attachment theory provides a complementary framework for understanding personality development. Ainsworth and Bowlby (1991) portrayed attachment theory as a theory of personality development (Fransson et al., 2013).

According to attachment theory, recurrent failure to obtain support from attachment figures and to sustain a sense of security, and the resulting reliance on secondary attachment strategies (hyperactivation and deactivation), interfere with the acquisition of social skills and create serious problems in interpersonal relations (Mikulincer & Shaver, 2012). Bartholomew and Horowitz (1991), using the Inventory of Interpersonal Problems (Horowitz LM, Rosenberg SE, Baer, 1988), found that attachment anxiety was associated with higher levels of interpersonal problems in general. Secure individuals did not show notable elevations in any particular sections of the problems circle, but avoidant people generally had problems with nurturance (being cold, introverted, or competitive), and anxious people had problems with emotionality (e.g., being overly expressive). Avoidance, which is associated with negative images others, expresses itself in interpersonal relations as social indifference, isolation or social withdrawal. Attachment Anxiety has also social roots: a fear of loosing a social object is a consequence of social information processing bias which represent a cognitive and perceptive aspects of Schizotypy (Djoric & Medjedovic, 2011).

Attachment security was also associated with openness in young adulthood (Fransson, Granqvist, Bohlin, & Hagekull, 2013). Researchers have become increasingly interested in the mechanisms by which attachment dimensions affect clinically relevant symptoms such as depression, anxiety and interpersonal problems (Mikulincer & Shaver, 2007). A number of studies have identified mediators between attachment and psychological distress. For example, Wei and colleagues (2005) found that affect regulation was a mediator between attachment dimensions and negative mood in a sample of college students.

9.4 Relationship between attachment and psychopathology. Studies support the notion that maladaptive patterns of mentally representing self and others serve as substrates for personality psychopathology (Skodol et al., 2011).

Relationships between traits and attachment could also be bidirectional (Scott et al., 2009).

Attachment is becoming a central concept in understanding psychopathology (Davila & Levy, 2006; Levy, Meehan, Kelly, Reynoso, Weber, Clarkin, & Kernberg, 2006; Strauss, Mestel, & Kirchmann, 2011). Attachment has an important relevance to the etiology, diagnosis, and treatment of mental illness (Lorenzini & Fonagy, 2013). There is a large body of research documenting the positive association in children, adolescents, as well as adults, between security in attachment relationships and well-being and other indices ofmental health, whereas insecure attachment, even if cannot be considered real disorders, they should be considered as risk factors for possible disturbances (Zeanah & Smyke, 2008), is typically associated with maladaptive outcomes (e.g., Cicirelli, 1996; Consedine & Magai, 2003; Shaver & Brennan, 1992). Within a family systems approach to psychopathology, psychological disorders are hypothesized to be at least partly a product of the family system in which an individual exists (Huges & Gullone, 2008). Anxiety, as a dimension of attachment, reflects mostly neurotic type of romantic relatedness, reflected in fear of loosing the partner and followed with emotions of depression and anxiety, while Avoidance attachment probably represents more severe problems in romantic bonding that are expressed in psychotic emotional phenomena such as manic-depression pattern (Djoric & Medjedovic, 2011), leaving place to hipothesise that emotional bond between child and mother can plausibly be assumed to be a common determinant of both adult attachment (Fraley, 2002) and schizotypal experiences (Djoric & Medjedovic, 2011). Empirical findings suggest that schizotypal traits play an important role in explanation of attachment dimensions in adults. Thus, the dimensions of Anxiety and Avoidance correlate positively with paranoia and social anhedonia (Berry, Wearden, Barrowclough, & Liversidge, 2006; Pickering, Simpson, & Bentall, 2008), and with cognitive disorganization (Berry, Band, Corcoran, Barrowclough, & Wearden, 2007). Anxiety

correlates positively with cognitive, perceptual and interpersonal aspects of subclinical psychotic experiences. Moreover, it also correlates positively with unusual experiences, paranoid ideation, social Anxiety, reduced affect, eccentric behavior and unusual verbalization (Tiliopoulos & Goodall, 2009). Positive correlations were found between Avoidance and interpersonal aspects, paranoid ideation, social Anxiety, reduced affect and negative symptomatology of pro-psychotic experiences (Tiliopoulos & Goodall, 2009).

Previous studies highlighted relationships between social anhedonia and attachment Avoidance (Berry et. al. 2006; Berry, et al., 2007; Troisi, Alcini, Coviello, Nanni, & Siracusano, 2010). On the other hand, attachment Anxiety was mostly correlated with positive schizotypal symptoms, such as paranoia (Meins, Jones, Fernyhough, Hurndal, & Koronis, 2008) and cognitive dysorganization (Berry et al., 2007), while for others (Djoric & Medjedovic, 2011) Depression was the best predictor of both dimensions of attachment (Cantazaro & Wei, 2010) and an association between Avoidance and affective dysfunctions of bipolar type, revealing that traits that are saturated with emotional content showed important connections with attachment dimensions (Cantazaro & Wei, 2010; Djoric & Medjedovic, 2011). these dimensions offers a contrary picture: Avoidance is primarily described by depression and lack of positive emotions, while the dimension of Anxiety possesses elements that are similar to bipolar disorder: increased mania and increased depression (Djoric & Medjedovic, 2011). The dimension of Anxiety contains a schizotypal (moreover, bipolar) component, although on face value it does not seem so (Djoric & Medjedovic, 2011). This finding is congruent with earlier findings about correlations between attachment dimensions and Schizotypy (Berry et al., 2007), and especially with those that stress correlations between Schizotypy and the dimension of Anxiety (Tiliopoulos & Goodall, 2009).

There exists an association between internalizing symptoms and disorders and poorer functioning at various levels of the family system (Hughes & Gullone, 2007). Even if insecure attachment styles.

It is hypothesized that anxious attachment styles to a range of anxiety, depressive and psychiatric symptoms (Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001; Hazan & Shaver, 1987; Manicavasagar, Silove, Marnane, & Wagner ,2009).

Additional studies have shown that anxious and avoidant attachment styles may be especially associated with depressive symptomatology (Hankin, Kassel, & Abela, 2005) Studies between attachment and psychopathology in adulthood results concluded for a stable correlation between insecure attachment and certain personality disorders (Fossati et al., 2003; Lorenzini & Fonagy, 2013; Magai, Hunziker, Mesias, & Culver, 2000; Nakash-Eisikovits, Dutra, & Westen, 2002).

Insecure attachment styles represent risk factors for psychopathology in adulthood (Caviglia, 2003; Liotti, 1999; Fonagy, et al, 1996; Kobak et al., 2009; Stepp et al., 2008), in particular borderline personality (Agrawal et al., 2004; Eggum et al., 2009; Geiger & Crick , 2001; Kobak , et al. , 2009; Westen et al., 2006; Mores et al., 2009). Warren and colleagues revealed a correlation between preoccupied attachment and anxiety disorder (Warren et al, 1997; Cassidy, 1995).

These complex interactions between “nature” and “nurture” put the concept of attachment in a privileged position from which to understand the etiology, development, and also treatment of PDs (Gabbard, 2005; Hruby, Hasto, & Minarik, 2011; Siever & Weinstein, 2009; Lorenzini & Fonagy, 2013).

Several studies underlined a mediational role for emotions in the association between attachment and psychopathology. As proposed by Fossati et al. (2005), the relationship between attachment patterns and personality disorders might be mediated by other putative mechanisms underlying the disorder, such as negative affect and impulsivity.

Tasca and colleagues (Tasca, Szadkowski et al., 2009) found that the association between insecure attachment and depressive symptoms was mediated by affect dysregulation. The results were consistent with literature indicating that attachment insecurity acts upon clinically relevant indicators of distress, such as depression and interpersonal problems, through mediating psychological processes (e.g., Wei et al., 2005).

Interpersonal problems, such as interpersonal aggression, need for social approval, and lack of sociability, mediated the distal risk of attachment style associated with engaging in suicide-related behaviors (Stepp, Morse, Yaggi, Reynolds, Reed, & Pilkonis, 2008), supporting the connection between interpersonal difficulties and adjustment difficulties, including selfinjures (Chapman, Gratz, & Brown 2006; Stepp, Morse, Yaggi, Reynolds, Reed, & Pilkonis, 2008).

There is a privileged relation between attachment and personality disorders (PDs) (Lorenzini & Fonagy, 2013).

There is a large body of literature addressing the relation between PDs and attachment theory and research. The review by lorenzini and fonagy (2013) approaches this relation from an evidence-based perspective, also highlighting implications for the treatment of PDs (Lorenzini & Fonagy, 2013).

PDs include an intrapersonal component (dysregulation of arousal, impulse, and affect), an interpersonal component (dysfunctional relationship patterns), and a social component (which creates conflicts with others and with social institutions) (Adshead & Sarkar, 2012). Attachment theory accounts for these four characteristics of PDs (Westen, Nakash, Thomas, Bradley, 2006) and provides an ideal standpoint to understand these disorders, integrating psychological (Zheng, Chai, Chen, Yu, He, Jiang, Yu, Li, Wang, 2011), psychiatric (Widiger, Huprich, Clarkin, 2011), genetic (Picardi, Fagnani, Nistico, & Stazi, 2011), developmental (Adshead, Brodrick, Preston, & Deshpande, 2012; Baird, Veague, & Rabbitt, 2005; Braun & Bock, 2011), neuroscientific (Braun & Bock, 2011; Fonagy, Luyten & Strathearn, 2011; Bartz et al., 2011; Insel & Young, 2001), and clinical (Adshead, 2010; Fossati, 2012; Levy, Ellison, Scott, & Bernecker, 2011; Strauss, Mestel, & Kirchmann, 2011) perspectives.

9.5 Attachment classification and personality disorder diagnosis. Many of the features of **insecure** attachment in adulthood resemble the signs and symptoms of Personality Disorders (Adshead & Sarkar, 2012; Bakermans-Kranenburg & van Ilzeldorhn, 2009; Choi-Kain, Fitzmaurice, Zanarini, Laverdiere, & Gunderson,2009; Fossati et al., 2003; McGauley, Yakeley, Williams, & Bateman, 2011; Westen, Nakash, Thomas, & Bradley, 2006).

Conversely, **secure** attachment is rarely associated with Personality Disorders (Braun & Bock, 2011; Meyer, Pilkonis, Proietti, Heape, & Egan, 2001; Westen, Nakash, Thomas, & Bradley, 2006). Attachment is associated with different forms of psychopathology, with preoccupied most closely linked to BPD (Argawal, Gunderson, Holmes, & Lyons-Ruth, 2004; Blatt & Levy, 2003).

The stable nature of attachment styles accounts for the development of enduring strategies to regulate emotion and social contact (Lorenzini & Fonagy, 2013). Preoccupied individuals, who are wary following a history of inconsistent support from caregivers, are likely to have a lower threshold for perceiving environmental threat and, therefore, stress. This is likely to contribute to frequent activation of the attachment system, with the concomitant distress and anger such activation can cause. Hence, they are likely to manifest compulsive care-seeking and over-dependency.

Consistent among the findings are trends that secure attachment experiences are associated with positive affect and well-being (Mikulincer & Florian, 1998), lower levels of depression (Roberts, Gotlib, & Kassel, 1996), as well as reduced loneliness (Hazan & Shaver, 1987), anxiety (Mikulincer, Florian, & Weller, 1993) and hostility (Mikulincer, 1998). Additionally, securely attached individuals are able to rely on an open, flexible style of emotion regulation when facing relational stress (Magai, Hunziker, Mesias, & Culver, 2000). On the other hand, avoidantly attached individuals tend to short-circuit negative emotion from consciousness (Magai et al., 2000), whereas ambivalent individuals have a heightened style of affect regulation (Shaver & Mikulincer, 2002).

Adult attachment patterns may be indirectly related to BPD features through their relationship with personality traits that more directly relate to BPD features (Scott et al., 2009). In the absence of secure adult attachment, normative behaviors are disrupted, which may leave the individual vulnerable to the intensification of anger, anxiety, depression, and impulsive behavior due to deficiencies in adaptive coping and support-seeking behaviors (Levy, Clarkin, Yeomans, et al., 2006). Attachment anxiety, but not attachment avoidance, is indirectly related to BPD features (Aaronson et al., 2006; Eurelings-Bontekoe et al., 2003; Levy et al., 2005; Meyer et al., 2004; Nickell et al., 2002). The relationship between adult attachment and psychopathology features was fully mediated by impulsive and aggressive traits (Fossati et al. 2005; Scott et al., 2009).

Attachment was associated with Neuroticism, Disintegration and low Openness in interpersonal relationships of adults (Djoric & Medjedovic, 2011). Greater attachment anxiety and avoidance heighten vulnerability to depression (Simpson, Rholes, Campbell, Tran, & Wilson, 2003).

The dimension of Anxiety is related to depressed affect accompanied by increased activity, restlessness, lack of trust in others, and uneasiness in social interactions (Djoric & Medjedovic, 2011*;* Morriss, Gucht, Lancaster, & Bentall, 2009). Avoidance contains a schizotypal component, while the dimension of Anxiety is mostly neurotic by nature (Djoric & Medjedovic, 2011).

Self-reports of attachment-related avoidance and anxiety in close adult relationships correlated robustly with psychopathology under conditions of both relatively high and low life stress (consistent with a risk model), supporting

the notion that self-reports of attachment-related avoidance and anxiety may function primarily as markers of psychiatric distress.

As Rutter and Sroufe (2000) emphasize, it is not enough to show associations between attachment-related variation and psychopathology; relevant research must determine how insecure attachments play a role in psychopathology and under what conditions such associations are likely to emerge.

A diathesis-stress model conceptualizes attachment as a stress regulatory system, suggesting that symptoms emerge when attachment-guided coping breaks down. When encountering stress, a secure person is more likely to seek social support, like for example in romantic relationships, and be able to effectively use it to overcome problems. Insecure adults, on the other hand, are thought to be less effective at using interpersonal (and other) resources to overcome life challenges, and hence experience distress (Fortuna & Roisman, 2008).

10. Separation anxiety:

The term "separation anxiety" (SA) has been used variously (Manicavasagar, Silove, Wagner, & Drobny, 2003) to denote an aspect of attachment behavior (Bowlby, 1969, 1973) a pathological form of distress observed in children exposed to aberrant bonding experiences (Ollendick, Mattis S, King, 1990) and a distinctive constellation of anxiety symptoms most commonly observed in the juvenile years (American Psychiatric Association, 1994; World Health Organisation, 1992). The present work, in line with recent studies, focuses attention on this latter usage of the term, also extending the possibility to experience separation anxiety to the age of adulthood (Manicavasagar, Silove, Wagner, & Drobny, 2003; Silove et al., 2007). Since the mid-90s several studies have proven the existence of an Adult form of the Separation Anxiety Disorder (ASAD) which was not yet nosologically recognized by the international psychiatric classification systems (DSM). DSM-IV acknowledges that the disorder may extend into adulthood (Manicavasagar, Silove, Wagner, & Drobny, 2003).

Recently, the American Psychiatric Association, in its DSM-5, decided to create a brand new separation anxiety disorder category, specific for adult individuals (ASAD), which is included within the general section of the anxiety disorders (American Psychiatric Association, 2013).

Separation anxiety (SA) has traditionally been defined as a childhood phenomenon. This disorder is conceptually rooted in both developmental research and attachment theory (Pini et al., 2005). Separation anxiety can be defined as a condition burdened by an excessive and inappropriate display of fear and distress when the individual is faced with situations of separation from home or from a specific attachment figure (Pozzi et al., 2014).

Clinical impressions suggest that separation anxiety is ubiquitous in childhood (Gittelman & Klein, 1985), although varying in severity. The separation from the mother (or from an attachment figure) is considered normal in early childhood (Ainswotrh, 1963, Bowlby, 1969, 1973), since it represents an adaptive evolutionary mechanism that keeps the helpless child in the proximity of the caregiver (Bowlby, 1969, 1973). Separation anxiety is an innate and universal phenomenon, so the child in the regulatory phase of development, between six and twelve months, feels the fear of strangers and distress at separation from caregivers. Distress upon separation from one's attachment figure is the developmental norm during early childhood and is considered to be an evolutionarily adaptive mechanism designed to keep the defenseless child in close proximity to his adult caregiver (Ainsworth, 1973; Bowlby, 1973; bruschi et al., 2014). This anxiety usually decreases after thirty months (Warren & Sroufe, 2004). Tipically, only when the separation distress becomes prolonged, excessive, and developmentally inappropriate or impairing, a psychiatric diagnosis is made.

Different epidemiological studies indicate a prevalence of SAD between 4 to 5% in children and adolescents (Masi, Mucci, & Millipedi, 2001). While between the age of 5-8 years symptoms arebehavioral and somatic, in the following years school refuseness and the fear of possible injure or illnesses for attachment figures preveals, somatization and provocative behaviors aimed to attract parents' attention are really frequent during adolescence (bruschi et al., 2014; Last, Francis, Hersen, et al., 1987).

The estimated prevalence of childhood separation anxiety disorder (CSAD) is 4% (American Psychiatric Association, 1994). Anyway, Prevalence estimates for Separation Anxiety Disorder range between 2% and 13% according to the age of the target sample, assessment methods and measurements, and the composition and handling of data by multiple informants (Costello & Angold, 1995; Hommersen & Johnston, 2010).

10.1 Separation anxiety in adulthood. An increasing amount of evidence showed that the separation anxiety disorder may arise at any age, not always in continuation with the correspondent childhood disorder, supporting a revision of the diagnostic criteria for this disorder is brought into question, as the onset is currently limited before 18

years of age (Bruschi, et al., 2014). The National Comorbidity Survey Replication (NCSR) (Kessler, Berglund, Chiu, et al, 2004) was tha first epidemiological study to include the ASAD and a retrospective module for childhood SAD (Kessler et al., 2005), showing a prevalence of 1,9% and 6,6% ASAD during life (Shear, Jin, Ruscio Walters, & Kessler, 2006). Studies indicate that adult ASAD represents a discrete diagnostic entity worthy of clinical attention (Shear et al., 2006).

In the previous version of the DSM-IV-TR (APA, 2000), separation anxiety disorder fell between disorders diagnosed in childhood and adolescence, with onset below the age of 18, and, even if it already allowed for the disorder to continue into later life, SAD was not considered, nor diagnosed in adults.

Since the mid-90s several studies have proven the existence of an Adult form of the Separation Anxiety Disorder (ASAD) which was not yet nosologically recognized by the international psychiatric classification systems (DSM). DSM-IV acknowledges that the disorder may extend into adulthood (Manicavasagar, D. Silove, R. Wagner, & Drobny, 2003).

Compared to children, adults with SAD present different and more mature symptoms (Manicavasagar et al., 1997). It may be possible to identify adults whose SA mirrors the constellation of symptoms observed in childhood, even though some of the specific features are modified by maturation (Manicavasagar, Silove, Curtis, 1997), and by the new context where the disorder appears (kessler et al., 2005). It is possible to identify a cluster of symptoms in adult anxiety patients that correspond broadly with descriptors for JSAD. ASAD symptoms are analogous to those manifested in childhood separation anxiety disorder apart from expectable maturational differences (e.g. adults fear leaving home for work while children may exhibit school refusal). Whereas the criteria for JSAD highlight somatic symptoms such as nausea and stomachaches (American Psychiatric Association, 2000), such physical complaints seem to be less prominent in adults who instead exhibit more cognitive and emotional symptoms (Manicavasagar V, Silove, 1997). For example, in adulthood, SA symptoms may manifest as extreme anxiety about being separated from (or harm befalling) spouses or children as well as parents, with acute anxiety episodes elicited by separation events (Manicavasagar, Marnane, Pini, et al., 2010). In adults, anxieties extend beyond parents to include intimate partners and children (Manicavasagar & Silove, 1997; Manicavasagar, Silove, Curtis, 1997). Adults affected by SAD experience frustrating limitations in their lives imposed by the need to maintain proximity to their attachment figures (Manicavasagar, Silove, Wagner, & Drobny, 2003). Moreover, adults with SAD have several opportunities to deal with their fears, for example, by making frequent phone calls, by adhering to rigid routines that ensure frequent contact with attachment figures, or by talking excessively as a means of lengthening contact time with key others (Manicavasagar, Silove, & Curtis, 1997). The symptoms of adult SAD is characterized by: very marked anxiety when separation from home or from major attachment figures is anticipated ; persistent and excessive worry about the possible loss of the principal attachment figures , or the persistent and excessive worry that a negative event happens to them, as well as the persistent and excessive worry that an unfortunate and unexpected event involved a separation from loved ones. Other symptoms could regard the difficulty in staying away from home without the attachment figure, or as an excessive worry for their loved ones' health and safety (Pini & Abelli, 2008). Adults with SAD usually report extreme anxiety about separations from major attachment figures, fears that harm would befall those close to them, and an intense yearning to return home (Manicavasagar & Silove, 1997). These maladaptive modes generally appear in adolescence or early adulthood (20 to 30 years) and tend to remain stable over time. To overcome these anxiety situations, the adult can call home all the time, adhere to strict routines that ensure frequent contact with loved ones, or talk excessively in order to spend more time in their company (Manicavasagar et al., 1997). In the event that there is a risk of real or imagined away from their attachment figures, which can be parents, partners or children, the person may experience a situation similar to a panic attack (Manicavasagar et al., 1997). ASAD Patients revealed severity of anxiety and depressive symptoms, as well as impairment in multiple domains of functioning either as great or greater than other patients with other anxiety disorders (Silove, Marnane, Wagner, Manicavasagar, Rees, 2010).

The areas of functioning affected in adults with this disorder seem to be: work, home care, the activities of private and social pleasure and close relationships (Silove, Marnane, et al., 2010), as well as school performance and family daily activities (Pini et al., 2010). Shear, Jin et al. (2006) found this version of the disorder in 6.6% of a sample of 5692 American adults (National Comorbidity Survey Replication). Also in adults, ASAD shows high comorbidity; 91,1% of patiens diagnosized with ASAD in the last 12 months, satisfied criteria also for another psychiatric disorder (NCS-R).

Of these participants, 77.5% reported the onset of SAD in adulthood, 53% had an affective disorder, and the majority (75%) was receiving or has received a treatment for emotional problems. A clinical study (Pini et al., 2010)

found that the 20% of outpatients, suffering from anxiety disorders and mood disorders, fulfilled the criteria for the adult version of the SAD.

With the inclusion of SAD in the new version of the DSM-V, it is possible to recognize, evaluate, and treat this disorder also in adults. Before its recognition as a distinct adult disorder in the DSM5, separation anxiety disorder was considered as a potential anxiety subtype in adulthood (manicavasagar, 2000).

Conflicting results were observed as regards the period of onset of ASAD: Shear (2006) suggests that the onset may be found in adulthood (18-25 years), while according to Pini (2010) ASAD may be a continuation of the separation anxiety disorder already present in childhood (JSAD). It is possible that in some juveniles with JSAD, whether because of favorable environmental conditions or inherent strengths, the disorder may remit permanently (Berg et al., 1976; Berg & Jackson, 1985). Others, who encounter ongoing insecurities in their primary bonds and/or who are biologically vulnerable, may experience the persistence of separation anxiety disorder into adulthood (manicavasagar, 2000).

Nevertheless, until recently, the subcategory of adult separation anxiety disorder (ASAD) was not taken in consideration in both epidemiologic and clinical studies focusing on the adult subtypes of anxiety (Silove, Slade, Marnane, Wagner, Brooks, Manicavasagar, 2007). Growing evidence suggest that separation anxiety in later life can occur in a form that seems equivalent to JSAD, although symptoms are modified somewhat by development (Manicavasagar, Silove, Curtis, 1997).

Manicavasagar and colleagues (2009) propose a developmental continuity theory of separation anxiety disorder. Patients with symptoms of SAD returned substantially elevated scores on a measure of early SA symptoms, the SASI, revealing a continuity in SAD between childhood and adulthood (Manicavasagar, 2000; Silove, Marnane, Wagner, Manicavasagar, & Rees, 2010). That trajectory would be analogous to that of other early-onset anxiety disorders, such as social phobia, that commonly extend from adolescence into adulthood. Adults with ASAD commonly, but not always, date their SA to their early years, suggesting a close continuity between juvenile and adult forms of the disorder (Manicavasagar, Silove, Wagner, & Drobny, 2003). Approximately one-third of childhood cases (36.1%) persist into adulthood if left untreated (Shear, Jin, Ruscio, Walters, & Kessler, 2006). This model suggests that a recognized childhood disorder (JSAD) may persist, manifesting as an adult form of the disorder (ASAD) (Manicavasagar V, Silove, 1997), supporting the nosologic status of the latter (Silove et al., 2007).

The symptom pattern alone may not be sufficient to make a diagnosis of ASAD, but that other criteria such as onset, course, family history, salience of separation anxiety compared with other symptoms, and associated disability should all be taken into account in reaching a final diagnosis (Silove et al., 2007). Most often symptoms manifest in childhood but the onset can be also in early adulthood (Manicavasagar, Marnane, Pini, Abelli, Rees, Eapen &Silove, 2010), regardless of history of childhood separation anxiety disorder (SAD) (Manicavasagar, Silove, Curtis, & Wagner, 2000).

Individuals reporting past JSAD having an 8-fold risk of being assigned a current diagnosis of ASAD (Silove et al., 2007).

Some studies found a number of adults with separation anxiety disorder reports who never had childhood separation anxiety disorder (Cyranowski et al., 2002; Deltito, Hahn, 1993; Mannuzza, Klein, Bessler, Malloy, LaPadula, 1993). SAD, such as other anxiety disorders, can show at any age, not just during childhood and adolescence (kessler et al., 2005).

These symptoms may affect the individual's behavior and lead to severe impairment in social relationships (Pini et al., 2005). If the sensitivity to the separation becomes excessive and prolonged, intense anxiety can interfere in daily life activities or normal development (Wilt, Oehlberg, & Revelle, 2010).

Most adult subjects reported at least some experiences of "separation anxiety", supporting the impression that such phenomena are universal and that a dimensional approach to measuring separation anxiety may be more useful than a categorical one (Silove et al., 1993). The distribution of scores in both normative groups showed a skew to the right suggesting that a small percentage of the population experiences more extreme feelings of separation anxiety in early life (Silove et al., 1993).

10.2 Relationship between Separation anxiety and attachment style. Separation anxiety and attachment style were found to be strongly related (Brumariu & Kerns, 2010). Aberrations in the quality of parent-child bonds which were found to render the child vulnerable to future psychological disturbance (Silove, et al., 1993). One possibility proposed by Attachment Theory (Bowlby, 1977) is that aberrations in early bonds induce persisting separation anxiety

in children rendering them vulnerable in adulthood if faced with ruptures to intimate relationships. Such findings are consistent with the tenets of attachment theory, which suggest that the psychological effects of insecure attachments in childhood commonly persist into adulthood (Shear, 1996).

Some studies highlighted the complex developmental pathway linking ASAD to anxious attachmen, that involves feedback loops linking insecure bonding experiences with anxious attachment styles and periodic exacerbations of overt separation anxiety symptoms, suggesting that this predictive association can be unraveled only through longitudinal studies (Manicavasagar et al., 2009).

Anyway, studies agree that, of all the forms of anxiety, separation anxiety disorder would be the most likely to be associated with an anxious attachment style, because sufferers are by definition highly sensitive to real or perceived threats to relationships (Main, Kaplan, & Cassidy, 1985; Ainsworth, Wittig, 1969). More specifically, separation anxiety would appear to be a core form of anxiety that is associated with adult anxious attachment style (Manicavasagar, Silove, Marnane, & Wagner, 2009), and with romantic attachment anxiety (Marazziti et al., 2010).

10.3 Relationship between separation anxiety and personality. SAD was significantly associated with Personality dimensions, in both clinical and nonclinical samples (Loas et al., 2002; Silove, Manicavasagar, O'Connell, & Morris-Yates, 2007). Patients with childhood onset presented higher comorbid personality disorders (cluster B and C), compared to those with later onset (Silove et al., 2010).There seems to be the same rate of personality disorders among patients with ASAD and other anxiety disorders (Manicavasagar V, Silove D, Curtis J, Wagner, 2000).

Silove et al. (Silove, Marnane, Wagner, & Manicavasagar, 2011) in a clinical study on 397 patients with anxiety disorders , showed that high levels of early separation anxiety may increase the likelihood of deterioration in personality development, altering security in interpersonal relationships. Studies revealed high correlation between the temperamental dimension of harm avoidance (HA) and separation anxiety symptoms and an important inverse correlation between the character dimensions of self-directedness (SD) and separation anxiety symptoms (Ball, Smolin, & Shekhar, 2002; Cloninger, Zohar, Hirschmann, & Dahan, 2012; Jiang, Sato, Hara, Takedomi, Ozaki, & Yamada, 2003; Nyman, Miettunen, Freimer et al., 2011; Pozzi et al., 2014). Consistently with a fundamental role of separation anxiety in the integration of functions of the self, separation anxiety shows a strong correlation with self-directedness, that is resourcefulness and self-acceptance, revealing aspects of irresponsibility, inefficiency, weakness, and bad self-reliance (Pozzi et al., 2014).

The increased levels of neuroticism amongst ASADs let hipothesize that early onset separation anxiety may have a profound impact on character development, increasing the overall tendency towards lifelong worry and insecurity or, on the other hand, that anxiety-proneness in early life, a reflection of a possible heritable vulnerability, tends to express itself in symptom patterns that typically emerge in childhood and adolescence, that is, separation anxiety (Silove, Marnane, Wagner, Manicavasagar, & Rees, 2010).

10.4 Reationship between separation anxiety and psychopathology. Some studies reveal that SAD is associated with a broad range of adult psychiatric conditions (Bandelow, Tichauer, Spath, 2001; Otto, Pollack, 2001; Pini et al., 2005), even if methodological inconsistencies were found in the literature concerning its relevance as a risk factor to, or precursor of, adult psychiatric illness (silove et al., 1993). Separation anxiety is an early risk factor for adult emotional disorder (Silove et al., 1993).

Where symptoms of SA have been observed in adults, it has often been assumed that they form part of or are secondary to another diagnosis (Hafner, 1981; Schneck, 1989).

Some authors supported the hypothesis that early SAD operates as a general vulnerability factor, increasing the risk of anxiety and mood disorders. The NCS-R study reveals that, similarly to anxiety disorders, mood disorders show high rates of association with ASAD (Shear, Jin, Ruscio, Walters, & Kessler, 2006). In adulthood, SAD has been associated with depression and mood instability, specifically with bipolar and cyclothymic spectrum disorders (Lewinsohn, Zinbarg, Seeley, Lewinsohn, Sack, 1997; Perugi, Akiskal, 2002; Perugi, Toni, Maremmani, Tusini, Ramacciotti, Madia, Fornaro, & Akiskal, 2012; Pini, Abelli, Mauri, et al., 2005; Pini, Abelli, Shear, et al., 2010; Toni et al., 2008; Wijeratne & Manicavasagar , 2003).

10.5 Relationship between separation anxiety and anxiety. SAD presents many correlations with anxiety disorders in general. Patients with ASAD may develop panic attacks in parting from loved figures, but the fear is connected to the primary separation, not with panic attack. The fear that something may happen to their loved ones is

also present in patients with generalized anxiety disorder (Masi, Mucci, et.al. 1999; Verduin & Kendall, 2003). In the case of generalized anxiety, the fear of losing a loved one is only one of the possible themes of the disorder, among which we can find fears about health issues, money, death, family problems, relationships, employment difficulties.

SA symptoms may be one element of a nonspecific vulnerability to psychopathological paths; in children SA was hypothesized to reflect a secondary reaction to the presence of other disorders such as panic disorder, specific phobia, generalized anxiety disorder, obsessive-compulsive disorder, bipolar disorder and alcohol dependence (Brück et al. , 2006), or they may constitute a primary form of anxiety that may be complicated by or mistaken for other anxiety disorders (Manicavasagar, 2000).

Few studies have been conducted with older people. ASAD was correlated with JSAD, ans aso with stait ad trait anxiety (Wijeratne & Manicavasagar 2003). Studies based on children found a major overlap of SAD with other anxiety disorders, particularly Overanxious Disorder (Last, Herson, Kazdin, Finkelstein, Strauss, 1987) and broader anxious personality features (Pozzi et al., 2014; Silove, 2010). Nevertheless, epidemiological data (Shear K, Jin R, Ruscio AM, Walters EE, Kessler, 2006) suggest that ASAD can occur on its own, at least in a minority of those with the diagnosis. Additionally, clinical data indicate that where comorbidity exists, a historical review tends to suggest that separation anxiety symptoms preceded other symptoms of anxiety (Manicavasagar, Silove, & Curtis, 1997). As such, available evidence offers some support for the relative independence of ASAD as a form of adult anxiety.

Bowlby highlighted a specific link between early separation anxiety and adult agoraphobia, effectively proposing that the latter disorder was the adult manifestation of persisting separation anxiety (Bowlby, 1969). Later formulations, also informing the DSM-III and DSM-IV, focused attention on early separation anxiety as a possible risk factor to PD with or without agoraphobia. Yet, the evolving body of research failed to provide consistent support for that putative developmental link (Lipsitz, Martin, Mannuzza, et al., 1994; Silove, Manicavasagar, Curtis, & Blaszczynski, 1996), with studies attempting to link early separation anxiety with adult PD with agoraphobia have yielded contradictory results (Klein, 1964; Perugi, Deltito, Soriani, et al., 1988), with some studies showing specific links and others suggesting that separation anxiety is a general risk factor to a range of anxiety disorders (Lipsitz, Martin, Mannuzza, et al., 1994; Silove, Manicavasagar, Curtis, & Blaszczynski, 1996).

Now studies report views against a specific SAD- panic disorder relationship (bruschi et al., 2014; Brückl et al., 2007; Manicavasagar, Silove, Marnane, & Wagner, 2009).

Comorbility between ASAD and, respectively panic and PTSD is high (Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters, 2005; Manicavasagar & Silove, 1997). Histories of JSAD were prevalent in adults with multiple anxiety diagnoses (Aschenbrand, Kendall, Webb, Safford, & Flannery-Schroeder, 2003; Lipsitz et al., 1994), and more specifically, with panic disorder in adulthood (Silove, Manicavasagar, Curtis, & Blaszczynski, 1996). Adults with unrecognized separation anxiety disorder may experience panic like symptoms under stress. Such "panic attacks" may be assumed to occur "spontaneously," unless sufferers are questioned about the separation fears or threats to bonds that provoke such symptoms. Thus, there may be a risk that anticipatory or phobic anxiety-related to fear of separations may be misdiagnosed as panic disorder and/or agoraphobia (Manicavasagar & Silove, 1997).

While there is a negative association between OCD and ASAD, agoraphobia without panic is the anxiety disorder showing the highest comorbidity with ASAD (Shear, Jin, Ruscio, Walters, & Kessler, 2006), both characterized by difficulty in going out from home without a companion (or the attachment figure, in case of ASAD), even if underlying fears differ between the two disorders (Bruschi et al., 2014; Manicavasagar et al., 2009).

11. Internalizing simptoms

Common forms of psychopathology can be organized into two broad groupings: internalizing syndromes, such as mood, depressive and anxiety disorders, and externalizing syndromes, involving substance use, addictive disorders and antisocial behavior (Krueger & Markon, 2013). Internalizing problems refer to conditions whose central feature is disordered moodand emotion, and include behaviors that are inner-directed and over-controlled (Achenbach & Rescorla, 2000). The spectrum of internalizing problems includes anxiety, depression, social isolation and withdrawal (Lecompte, Moss, Cyr, & Pascuzzo, 2014). Numerous studies have found that girls experience a higher level of internalizing symptoms than boys during adolescence and young adulthood (Angold et al. 2002; Costello & Angold 2000; Hankin et al. 1998).

The DSM-5 was designed to recognize this structural organization as a means of facilitating research into common factors uniting specific syndromes (APA, 2013). Internalizing disorders are among the most common

psychological disorders during childhood, adolescence, and young adulthood (Costello et al. 2003; National Institute of Mental Health, 2011; Trudeau, Spoth, Randall, Mason, & Shin, 2012). Internalizing symptoms and disorders are characterized primarily by a disturbance in mood or emotion and incorporate both depression and anxiety (Huges & Gullone, 2007).

They are also characterized by excessive emotion expression control, which is revealed also in the form of somatization, social withdrawal, feelings of inferiority, attention demanding and dependence (Achenbach & Edelbrock, 1978; McCulloch et al., 2000). Depression and anxiety symptoms are among the most common during the period of young adulthood (Fifth-na - Kerr, 1993); they are called internalizing symptoms, which are characterized by an excess of control of expressed emotions, so that they disclose in the form of somatization, social withdrawal, feelings of inferiority, request care and addiction (Guttmannova, Szanyi, & Cali, 2007).

They are contrasted with externalizing symptoms and disorders which are characterized primarily by a disturbance in the regulation of behavior, for example conduct disorder (Kovacs & Devlin, 1998). An important distinction has been made between internalization at the symptom level and diagnosable internalizing disorders (Merikangas & Avenevoli, 2002). For example, a person may experience symptoms of depression in the form of feelings of sadness and tearfulness, or symptoms of anxiety in the form of worries and fears. Such symptoms at low levels are considered normal and typically pass with time. Conversely, these symptoms may be of sufficient number and severity to cause significant impairment and to meet defined diagnostic criteria for a depressive or anxiety disorder (Huges & Gullone, 2007). One potentially important risk factor is childhood temperament (Schofield, Coles & Gibb, 2009), which can be understood as one's natural disposition toward his or her physical and interpersonal world (Rothbart, Ahadi, & Evans, 2000).

Rates of onset of anxiety and depression have also been reported to increase sharply with age, from early adolescence into young adulthood, (Lewinsohn, Rhode, Seeley, Klein, & Gotlib, 2003; Schulenberg & Zarrett, 2006). With one study reporting rates rising from 1% to 2% at age 13, to 3% to 5% at age 15 (Lewinsohn, Moerk, & Klein, 2000). With regard to anxiety disorders, the prevalence has shown increasing rates with age (14.7% at 12–13 years, 19.7% at 14–15 years, 22% at 16–17 years; Essau et al., 2000).

Anxiety disorders are also reported to be significantly more prevalent in females than males (21.8% versus 13.8%; Essau et al., 2000). At the symptom level, Boyd et al. (2000) summarized numerous studies from around the world and reported rates of anxiety symptoms varying between 3.8% and 25% (Huges & Gullone, 2007). While the prevalence rates for anxiety and depression are often reported separately, comorbidity between anxiety and depression is estimated to be high, although reports vary considerably (Huges & Gullone, 2007). For example, one review reported that between 20% and 75% of depressed youth also have a comorbid anxiety disorder, while between 5% and 55% of anxious youth also have a depressive disorder (Merikangas & Avenevoli, 2002). The frequency of comorbid cases, along with the strong conceptual overlap of the two constructs and the high correlations often reported between depression and anxiety, has led to various debates in the literature regarding the nature of these constructs. Indeed it has been noted that pure depression and pure anxiety are rare and that anxiety is often observed as a precursor to depression. Such findings have resulted in the proposal that depression and anxiety are more accurately conceptualized as manifestations of a broader construct such as internalization or negative affectivity (see Brady & Kendall, 1992; King, Ollendick, & Gullone, 1991 for reviews). It is clear that internalizing symptoms and disorders have important consequences for individual's social and emotional well-being. They have been associated with drug use, suicide attempts, stressful events, reduced life satisfaction, poor self-esteem, educational underachievement, early marriage, marital dissatisfaction, and early parenthood (Gotlib, Lewinsohn, & Seeley, 1998; Rao et al., 1995; Woodward & Fergusson, 2001).

Internalizing symptoms during young adulthood are associated with negative social, health, and behavioral consequences that impact the individuals, their families, and society (Trudeau, Spoth, Randall, Mason, & Shin, 2012).

11.1 Internalizing symptoms in young adulthood. Young adulthood puts people in front of many changes and challenges related to the process of growth (Graber, Brooks-Gunn, 1996a); the results of developmental challenges, which are influenced by such restructuring along the life course, may have negative influences on the individual development (Selvaggio, 2010), such as to make young-adulthood potentially critical in terms of physical and psychological health and welfare (Schulenberg & Schoon, 2012).

The different transitions to adulthood, which can provide a psychological restructuring, both on the intrapersonal and on the interpersonal level, but also represent significant moment of stress and anxiety (Arnett, 1997; Cowan, 1991; Graber, Brooks, & Gunn, 1996; Urquhart & Pooley, 2007).

Different transitions occurring in young adulthood increase the likelihood of experiencing stressful events, like separation from birth family, and, as a consequence, internalizing symptoms can emerge (Arnett, 1999; Graber & Brooks-Gunn, 1996; Lewinsohn et al., 2003; Nelson & Barry, 2005; Rice , Harold, & Thapar, 2003).

The realization of these developmental tasks does not happen all at once. Many life transitions and changes during young adulthood require the ability to adapt to these changes, which is predictive of their psychological wellbeing (Graber & Brooks-Gunn, 1996; Schulenberg & Zarrett, 2006).

Many individuals perceive the transition to adulthood as difficult and young adults may have difficulty coping with challenges experienced typical of this developmental period (Shanahan - Bauer, 2004); (Reinherz et al., 1999, 2003; Schulenberg & Zarrett, 2006).

Consequently, vulnerability to psychopatological symptoms during the transition to adulthood increases (Seiffge-Krenke, 2006), becoming a reaction to, both individual and environmental, developmental changes (Lewinsohn et al., 2003; Walters, 1989). although most of them adapt to new situations, a large number of young adults experience more structured symptoms (Graber & Brooks-Gunn, 1996; Schulenberg & Zarrett, 2006). Sometimes, one or more of these tasks cannot be reached yet, but the individual may still go forward; in other times, the failure of one of these tasks may involve difficulties in another, then psychological distress may become evident and give rise to symptoms (Conlon, 2002).

Symptoms which develop during young adulthood may differ from those of earlier and later periods; in this regard, research suggests that, compared to adolescents, young adults are more likely to suffer from insomnia, loneliness, loss of weight, although they are less likely to be at risk for suicide as during adolescence (Lewinsohn et al., 2003; Walters, 1989). Studies carried out on college students samples found that sadness tends to be the main characteristic of depressive symptoms, whose severity is significantly associated with fear, anger and guilt (Seidlitz - Fujita - Duberstein, 2000).

Young adults who postpone as much as they can separation from family and the process of taking responsibility and becoming adults, seemed more likely to have generalized concerns about their future (Berman et al., 2004).

Young adults whih were in the phase of moratorium were more likely to experience anxiety and depression (Weems et al., 2004).

When young adults leave home for the first time, they separate from the objects of childhood (eg, the mother), but often they have not yet established a new relationship with a consolidated partner (such as a husband or wife) (Colarusso , 1990 < http://www.pep-web.org/document.php?id=psc.045.0179a >; Nelson & Barry, 2005); at the same time, young adults may experience other forms of separation, such as romantic breaks. Therefore, this period can be characterized by loneliness and, therefore, by internalizing symptoms (Nelson - Barry, 2005).

In sum, internalizing symptoms can have lasting effects on social and emotional well-being. Due to their clear negative effects on individuals' lives, understanding the aetiology of internalizing symptoms and disorders and further examining their sequelae have become important and rapidly expanding areas of research (Hughes & Gulone, 2008).

Since, during the first year of university, they seem to be negatively related to psychological adaptation (Holmbeck - Wandrei, 1993). As a result, the lack of adaptation for young adults of both genders during this period can result from distinct pathways, which may represent an emphasis of their normal developmental courses. Discrepancies observed in college students made researchers suggest for more studies in this area to identify the gender models and possible mechanisms underlying the disadaptation during the transition to adulthood (Holmbeck & Wandrei, 1993).

11.2 Anxiety. Anxiety is a fundamental dimension of personality and, just as any personality trait, can be conceptualized as a coherent patterning over time and space of affect, behavior, cognition, and desires (Wilt, Oehlberg, & Revelle, 2010). In the DSM-V anxiety disorders include: separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, generalized anxiety disorder and substance/ drugs induced anxiety disorder (APA, 2014). Anxiety is a normal experience of mankind, with an adaptive and evolutionary significance. It is a general emotional state of apprehension, tension or uneasiness that stems from the anticipation of danger, whose origin is largely unknown or unrecognized (American Psychiatric Association, 1978). It is often difficult

to identify the cause of anxiety: it is diffuse, without an object, persistent and difficult to control. It represents therefore a state of increased vigilance, rather than an emergency reaction (Rachman, 2004).

Anxiety can prepare to face a potential danger or threat, helping to overcome adverse circumstances and fostering personal growth (Militerni, 2009). This reaction, however, can be considered pathological when it is too intense and persistent, or when it exerts a negative influence on daylife functioning, satisfaction and emotional well-being (American Psychiatric Association, 1978). It is therefore pathological, when there is way, and no longer serves only to warn of danger (Kandel, 2005). Anxiety disorders can differ depending on the associated cognitive ideation and on the type of objects or situations that can cause fear, anxiety or avoidance behaviors. A common denominator is the subjective experience of a disproportion between personal strengths and skills and perceived problems to cope with (Spielberger, 1996).

Women had higher rates of lifetime diagnosis for anxiety disorders (McLean, Asnaani, Litz, & Hofmann, 2011).

Debate continues as to whether the anxiety disorders should be conceptualised as categorical or dimensional (Tyrer, Seivewright, Johnson, 2003). Taxometric analyses have tended to support a dimensional pattern for most forms of anxiety, including adult separation anxiety (Silove, Slade, Marnane, Wagner, Brooks, Manicavasagar, 2007; Ruscio, Ruscio, Keane, 2002).

Moreover, anxiety can be differentiated as a state or as a trait, the first can be understood as a transitory state, while the second as a relatively stable personality trait (Cattell & Scheiner, 1961, 1963; Grös, Antony, Simms, & McCabe, 2007; Spielberger, 1966, 1972, 1976, 1979). State anxiety can vary in intensity and fluctuate over time as a function of perceived threat. Anxiety provides a feeling of insecurity and helplessness in the face of a perceived injury. It can be a source of worry, or it can be manifest as a tendency to run away and to avoid threats (Baker, 1980; cit. Comunian in 1984).

Trait anxiety refers to relatively stable individual differences in anxiety: excessive anxiety, tension and increased activity of the autonomic nervous system, a tendency in perceiving stressful situations as dangerous and threatening, and in responding to various situations with different intensity in the reactions. It is a personal tendency to perceive a wide range of life situations as threatening, and to react with high intensity of anxiety. This trend remains latent until it is triggered by stress associated with actual or perceived dangers (Spielberger, 1966). The higher levels of trait anxiety, and more likely the individual will experience high peaks of state anxiety in situations perceived as threatening.

Anxiety, which is characterized by extreme nervousness and worry, is frequently experienced by young adults (Santorelli, 2010).

Several theories have been proposed to explain the high levels of anxiety during young adulthood. Psychoanalytic theory suggests, for example, that the fear of loss of the object and the helplessness that comes, as well as new personal and social expectations and demands on the Super-ego, increase vulnerability to anxiety (Clayton & Tucker-Ladd, 2004 < http://www.psychologicalselfhelp.org/ >). Individuals, who are in the midst of a transition, can experience high levels of existential anxiety, which decreases after the transition has been completed. For example, university students experience significant anxiety levels about what they will do after graduation. Given the large number of young adults who incur in these symptoms, one might assume that existential anxiety is a normative phenomenon during young adulthood (Kumaraswamy, 2013).

11.3 Depressive symptoms in young adults. A survey carried out on university students by the American College Health Association in the 2003 revealed that about 10% of the participants were affected by depressive symptoms and almost 40% of them reported that these symptoms interfered with their ability to study (Berry, 2004). Although depressive symptoms represent the most common problem among young adults, these have received little attention, especially for their mode of onset (Quintana & Kerr, 1993).

Young adults may have difficulty coping with the many, although normative,challenges experienced during this period (Shanahan - Bauer, 2004); consequently, during the transition to adulthood, symptoms vulnerability increases (Seiffge & Krenke, 2009), and symptoms can then become a reaction to the development (Lewinsohn et al., 2003).

Although depressive symptoms may represent a reaction to changes in the normative development, they may also be determined by events that are universally perceived as stressful (Lewinsohn et al., 2003). Due to the different transitions that occur during young adulthood, in fact, the probability of experiencing stressful events increases; it follows, therefore, that the more stressful are events, the more individuals are at risk of experiencing negative moods

(Arnett, 1999; Graber & Brooks-Gunn, 1996; Rice, Harold, & Thapar, 2003). For young adults, the role of gender in psychopathology, with regards to depressive symptoms, remains unclear. Although many studies did not found a relationship between gender and depressive symptoms (eg, Lewinsohn et al., 2003; Reinherz et al., 2003), gender differences in these symptoms seem to be observable, from adolescence to adulthood.

In particular, young women are more likely than men to experience recurrent episodes of depressive symptoms (Berry, 2004; Lewinsohn et al., 2003), also more serious compared to those experienced by men (Galambos et al., 2006; Reinherz et al., 1999). Given that 80% of young women experience first symptoms of depression after a major life event, gender differences seem to reflect the responsiveness of women to stressful life events (Nesse, 2000).

Studies have also found for anxiety an higher prevalence in females than in males (Costello et al., 2005; Quintana & Kerr, 1993).

Gender differences with respect to depressive symptoms can reduce, or even invert during the transition to adulthood (Galambos et al., 2006; Lewinsohn et al., 2003). This change may reflect gender differences in meaning attribution with regards to various psychological indicators of the adult condition. For example, the connection in interpersonal relationships seems to be more popular among young women, while young men consider as most important self-sufficiency (Quintana - Kerr, 1993).

11.4 Somatization. Somatization is a widespread problem throughout different cultures (Isaac & Janca, 1996; Kirmayer & Young, 1998) and health care systems (Lipowski, 1988). Since Stekel coined the term in 1908 (Mayou, 1998), it has been defined in different ways. These definitions state commonly that the presence of somatic symptoms cannot be sufficiently explained by organic findings (De Gucht V, Heiser, 2003). Somatization is a tendency to present somatic symptoms that are not sufficiently explained by medical disease (Lipowski, 1988). Somatizing patients have been suggested to have difficulties in expressing their emotions verbally (Karvonen et al., 2005). The operational definitions have been based on a number of symptoms in the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria. The diagnosis of somatization disorder (SD) represents an extreme case of somatization, which presents an early onset and long-term stability (APA, 1994). Somatization was found to be associated with actual psychological distress (Karvonen, 2007). It seems to be relatively stable over time, especially in females, and supports the DSM criteria of chronicity (Lieb et al., 2002; Simon GE, Gureje, 1999). Studies reporting a sex difference among subjects with somatization have constantly found a clear female dominance (Swartz *et al.* 1991, Fink 1992, Terre & Ghiselli 1997, Kolk *et al.* 2002). Women have a significantly higher somatization score and higher number of somatic symptoms than men (Hiller et al. 2006; Huurre et al. 2005; Mak & Zane, 2004).

Somatization can also be regarded as a personality trait, akin to temperament (Bass & Murphy, 1995), even if It seems not possible to identify any characteristic temperament profile for somatizers (Karvone, 2006).

Somatization has been associated with an increased probability of a psychiatric comorbidity such as mood, anxiety, and personality disorders (Kolk et al. 2002, Creed & Barsky 2004; de Waal et al. 2004; Mak & Zane 2004). Smith *et al.* found mood disorder, personality disorder and psychoactive substance use disorder to be common psychiatric comorbid disorders among somatoform disorder patients (Smith et al., 2000). In particular, somatization has been found to be associated with anxiety and depression (Escobar, Burnam, Karno, Forsythe, & Golding, 1987; Katon, Lin, & von Korff, 1991), but also with personality disorders (Kooiman, Bolk, Brand, Trijsburg, & Rooijmans, 2000). Persons with SD were find to be more likely to have an underlying personality disorder or traits (antisocial, borderline, histrionic and narcissistic PD) (Bass & Murphy 1995, Taylor & Mann 1999, Noyes et al. 2001; Stern et al., 1993). Passivedependent, histrionic, and sensitive-aggressive traits have been shown to be two times more prevalent among SD patients than among patients with anxiety and depression.

Antisocial behavior, drug and alcohol abuse were often reported among SD patients in the ECA study (Swartz *et al.* 1986a).

Alexithymia plays a central role in the pathogenesis of somatization (Taylor, Bagby, Parker¸1997; Kooiman, Bolk, Brand, Trijsburg, & Rooijmans, 2000). Some studies concluded that there is an association between somatization and alexithymia, even if the evidence was not very strong (De Gucht V, Heiser, 2003), while Karvonen et al. (2005) found no evidence for an association between alexithymia and somatization.

12. A specifical category of young adults: university students

Students represent a specific cathegory of young adults that could be particularly involved in the phase of moratorium. Psychological well-being, broadly defined as personal development, is one of the most important aspects of psychological adjustment and efficient functioning (Vallerand, 2012). Psychological well-being, in terms of positive relations with others, self-acceptance, autonomy, and personal growth, enhance an effective mastery in life and in individuals' emotional, psychological and physical health (Garcia, Al Nima, & Kjell, 2014).

A specific situation is that of university students. University life may have a beneficial effect for some students (Andrews & Wilding, 2004).

Social experience is added to the personal meaning of the individual. Students' perceptions of their social integration and of their social contribution support their psychological well-being (Negovan, 2010).

For some university students, intense homesickness—the distress caused by separation from home—carries preoccupying thoughts of home and attachment objects. Sufferers typically report depression and anxiety, withdrawn behavior, and difficulty focusing on topics unrelated to home. For domestic and international university students, intense homesickness is particularly problematic since it can exacerbate preexisting mood and anxiety disorders, precipitate new mental and physical health problems, and sometimes lead to withdrawal from school (Thurber & Walton, 2012).

The lives of students are different in many ways to that experienced by students 20 or 30 years ago. Anyway, while over the last 20_30 years education has been viewed as a protective 'buffer' to mental health issues, current findings suggest that higher education is a time of heightened anxiety (Cooke, Bewick, Barkham, Bradley & Audin 2006). Stress is one of the strongest predictors of anxiety and depression (Mirescu & Gould, 2006). Although such stress may take the form of demanding work challenges across a variety of areas, one work-based stressor which has been shown to link with anxiety and depression is that of undertaking university study, perhaps via the demands of academic pressure, finances, social and sexual issues and sleep deprivation (Scott & O'Hara, 1993), the latter itself being a risk factor for depression (Neckelmann, Mykletun, & Dahl, 2007). As support for the stressful effects of university study, it has been reported that university students of any age have higher levels of anxiety and depression than the general community (McLennon, 1992),with recent data suggesting that over 15% of undergraduate and 13% of postgraduate students suffer from an anxiety or depressive disorder (Eisenberg, Gollust,Golberstein, & Hefner, 2007). While the pressures of university study are at least partially responsible for these disorders (Tanaka & Huba, 1987), anxiety and depression themselves can adversely affect student academic performance (Dyrbye, Thomas & Shanafelt, 2006) and contribute to learning difficulties, therebycompounding the stress experienced.

University, which provides students with an environment for realization of their late adolescence psychological tasks, is an important context in which psychopathology symptoms can take place during young adulthood (Conlon, 2002) (eg., establishing a strong sense of personal identity and sexual orientation, independence from parents, taking responsibility and feeling part of the broader social context). For example, if the young adult is afraid to grow up, to be sexually active, to leave his parents, then he can self-sabotage in one or more areas of his life that lead him to independence. He may neglect his appearance, hitting his body with suicidal acts, eating disorders, or drug abuse, and he may neglect work, and social life, avoiding contact with peers, or denying sexual interest (Fedora, 2002).

Thus, for some students, university can become an arena of conflicting needs, between the realization of intellectual and emotional maturation, which are difficultly compatible goals. Therefore, when the emotional forces and the intellectual ones become too independent, too merged, or too unbalanced, then psychologicalsymptoms can emerge(ibid.). For this reason, for some students, university can represent a context of heavy requirements, as the realization of intellectual and emotional maturation, giving place to possible exacerbation of psychopathological symptoms (Conlon, 2002). Life in the university environment presents many social and emotional challenges that may have an impact on the psychological adjustment of students; they are constantly threatened by the risk of low academic performance, by a compromise social functioning , as well as by financial and accommodation problems (Negovan, 2010). That can contribute to the exacerbation of anxiety and depressive symptoms that represent emotional that their distress takes (Bitsika et al., 2011).

Academic, relationship and financial difficulties have been found to be some of the major causes of stress for students (Grant, 2002) and relationships between these variables and mental health have also been found, also with increase in anxiety and depression midway through their study course (e.g. Andrews & Wilding, 2004; Monk, 2004; Roberts & Zelenyanski, 2002). Insecure attachments were considered important factors in stress levels and in a decreasing use of adaptive coping strategies (Berger et al., 2001).Students who have tried to break up by force from parents can become, at times, withdrawn, isolated and at risk for behavioral problems (Wartman & Savage, 2008). Financial difficulties significantly predicted depression, while relationship difficulties predicted anxiety. Depression and

financial difficulties revealed during mid-course, in turn, predicted a decrease in exam performance from first to second year of university (Andrews & Wilding, 2004). Students are also facing greater academic pressures.

Students' lives are becoming increasingly pressurised due to changes such as the abolition of student grants in favour of student loans and the introduction of tuition fees (Cooke, Bewick, Barkham, Bradley, & Audin 2006). Such changes have placed students under increasing financial pressure (Hesketh, 1999).

University students are constantly facing the risk of poor academic achievement or impaired social functioning in the context of their developmental and of broader social changes, of financial and accommodation problems, and also due to the specific demands of the academia (Misra & McKean, 2000; Ross, Cleland, Macleod, 2006; Verger, et al. 2009). As more people enter higher education, degrees are becoming more common. Consequently, the pressure to get a good degree is greater than ever before. However, while higher education is expanding, there is concern that the structures currently in place to support students are not developing at an equivalent pace (Davy et al., 2000). Financial and other difficulties can increase students' psychological healt as levels of anxiety and depression and financial difficulties and depression can in turn affect academic performance (Ross, Cleland, Macleod, 2006). Cooke and colleagues in the UK identified in increasing financial and academic pressure the base for increased levels of anxiety in college students of the first year, resulting in a lower level of psychological well-being in students, compared to the general population (Cooke et al., 2006). Students who worried about money had higher debts and performed less well than their peers in degree examinations (Ross, Cleland, & Macleod, 2006). Comparisons between students and the general population have reported, in general, that students fare worse than the general population on measures of psychological well-being (e.g. Roberts & Zelenyanski, 2002; Roberts et al ., 1999; Stewart-Brown et al ., 2000).

As well as the data reported above by Eisenberg et al. (2007), another recent study of the incidence of depression amongcollege students in the USA (Alloy et al., 2006) reported rates of up to 16% for majordepression and 45% for minor depression during the first three years of study amongstudents who had no prior history of depression. Kitzrow (2003) reported that 28%of freshmen were overwhelmed and 8% were depressed. These data help to explainthe increased incidence of more serious emotional and mental health difficulties instudents noted by university counsellors during the last 30 years (DeStefano, Mellott& Petersen, 2001; Gill & Sysko, 2000). Of major concern in terms of treatment is that15% of medical students are depressed and 20% self-report suicidal ideation, but lessthan a third of these students receive treatment (Tjia, Givens, & Shea, 2005). Given the frequent comorbidity between anxiety and depression in university students, and the association between comorbidity of anxiety and depression with greater severity of disorder, reported in previousliterature (Katon et al., 2007), some authors argue that it could be preferable to recognise that these two disorders are linked in symptomatology andthat they need to be assessed for their sole and combined presence (Bitsika & Sharpley, 2012).

Attendance at university can be an anxious time for many students, in particular at the beginning of the year, and anxiety may be one factor influencing students' attitudes towards alcohol in which heightened intake becomes a socially acceptable way of releasing anxiety and worries, or also may be a precursor of subsequent depression (Cooke, Bewick, Barkham, Bradley & Audin, 2006).

Researches seem then to show opposite trends: some of them consider in the developmental period of young adulthood as supporting individuals "healthy" psychological development (Skowron, Wester, & Azen, 2004); other attribute to this period a value of stickiness that brakes them from becoming adults (Maione & Franceschina, 2002). However, scholars agree that young adulthood involves a condition of psychological complexity exacerbated by underlying intra-individual and interpersonal aspectations, such that a multi-dimensional approach is needed. Researchers tried to address this complexity by focusing on the analysis of 4 macro-areas (attachment relationships, symptomatology, interpersonal relations) and some of their specific components that characterize individual life experience; furthermore, possible trends and interrelationships between these 4 areas within this developmental period have been studied (e.g., Thurber & Walton, 2012).

Infact, although a large literature highlights the predictive or protective key role that these constructs exert in the individual psychological development and in his adaptation along the life course, few researches specifically assessed simultaneously the relations that exist between them in a global sense.

12.1 Personality and education. Personality and academic behaviors were also find to be highly related to each other (Poropat, 2009; Komarraju, Karau, Schmeck, Avdic, 2011).

Neuroticism and emotional instability had an inverse relationship with academic achievement (Chamorro-Premuzic & Furnham, 2003). Moreover, interpersonal skills were proportional to elaborative processing (Bhagat & Nayak, 2014).

Evidence suggests complex links between personality traits and learning styles (komarraju et al., 2011), which, in turn, influence academic performance (Koumarraju et al., 2011). Personality traits also influence academic achievement. Grit or perseverance (Duckworth, Peterson, Matthews, & Kelly, 2007), agreeableness, conscientiousness, and openness predict overall academic performance (Farsides & Woodfield, 2003; Poropat, 2009). Students who are given to worry and anxiety are likely to disengage from the learning process and fail to organize and categorize what they are learning into meaningful units (Komarraju et al., 2011).

Personality and interpersonal skills were associated with aspects of learning and academic achievement (Komarraju et al., 2011). Recent studies suggest that personality traits combined with learning styles can help predict some variations in the academic performance and the academic motivation of an individual which can then influence their academic achievements, because students with high levels of conscientiousness develop focused learning strategies and appear to be more disciplined and achievement-oriented (De Feyter, Caers; Vigna; Berings, 2012).

12.2 Symptoms in college students. Psychopathology symptoms exert a particular role in university students, since they are exposed to several stressors that are related to their condition of students and to their 'university life'.

In individualistic cultures, social standards of behaviour require individuals to be assertive, competitive and not to show signs of weakness (Clark, 2001; Essau, Leung, Koydemir, Sasagawa , O'Callaghan & Bray, 2012).

Studies carried out on a sample of college students have riscontrated that, besides sadness, which is the main element of depressive symptoms, fear, **anger** and guilt are associated with depression severity (Seidlitz, Fujita, & Duberstein, 2000).

Stress in the form of demanding challenges across a range of life tasks has been shown to be a major predictor of anxiety and depression (Mirescu & Gould, 2006). One identifiable stressor that occurs at a defined period of life is the transition from home of origin to independent living, such as when young people commence university study. This lifestyle change is often accompanied by the challenges of new academic, financial, social and sexual demands as well as sleep deprivation (Scott & O'Hara, 1993), and these stressors have been shown to produce higher levels of anxiety and depression among university students than are present in the general community (McLennan, 1992). In turn, elevated anxiety and depression among university students can adversely affect their academic performance (Dyrbye, Thomas, & Shanafelt, 2006) and contribute to learning difficulties, thereby compounding the stress experienced. Some data in the USA (Alloy et al., 2006) reported rates of up to 16% for major depression and 45% for minor depression among students who had no prior history of depression (Bitsika, Sharpley, Aroutzidis, & Smith, 2011). Benton, Robertson, Tseng, Newton and Benton (2003) reported that stress and anxiety problems were presented by student clients more frequently than other problems. One of the core symptoms of clinical depression is anhedonia (APA, 2000), when the depressed individual loses their sense of meaning in life, and may lack, or lose focus on, goals for self-change and health (APA, 2000). Possession of these goals has been described by Frankl (1984) as having a 'Purpose in life' (PIL), and encapsulates the individual's reason for existence. Possession of a clear PIL has been associated with lower levels of anxiety and depression in university students (Lewis, 1982) and reduced activation in the presence of stressors (Ishida & Okada, 2006).

These symptoms have shown significant increases in severity across a diverse set of client problems, which could negatively impact their functioning. (Benton, Robertson, Tseng, Newton, & Benton, 2003; Erdur-Baker, Aberson, Barrow, & Draper, 2006; Joyce , Ross , Vander Wal & Austin, 2009; Kitzrow, 2009). Several studies have highlighted that students experiencing anxiety and depression are at risk for academic difficulties and suicide (Burns, Lee, & Brown 2011; Deroma, Leach, & Leverett, 2009; Ratanasiripong, Sverduk, Hayashino, & Prince, 2010).

Similarly, Green, Lowry, and Kopta (2003) found that common problems among counseling center clients included depression (39% of clients) and academic performance/study skills (36% of clients). Anxiety, romantic partner concerns, and body image concerns. Clinician ratings of client problems are consistent with problems self-identified by clients, indicating that relationship problems, stress/anxiety, depression, and academic skills are frequently seen by clinicians in college counseling centers (Benton et al., 2003; Green et al., 2003; Joyce , Ross , Vander Wal & Austin, 2009).

In a study by Bishop, Bauer, and Becker (1998), approximately 50% of college students reported at least moderate need for assistance with academic skills issues and over 35% reported need for assistance with depression, anxiety, and relationship issues. In addition, college students have been shown to be less healthy than noncollege adults not in treatment on indexes of well-being, life functioning, and global mental health (Green et al., 2003). While fears of negative judgements from others may emerge as a result of failure on tests in high school students (Putwain et al., 2010), college-aged young adults are less vulnerable to the negative judgements of others because their self is more developed and integrated. For this age group, other worries maybe dominant, such as worries about the potential narrowing of future personal, professional or employment opportunities (Dan, Ilan & Kurman, 2013; Ersoy-Kart & Erdost, 2008). Four characteristics of anxious attachment are relevant to test anxiety. First, people who score high on anxious attachment tend to evaluate threats as extreme and their own coping resources as poor (Alexander, Feeney, Hohaus, & Noller, 2001; Ein-Dor, Mikulincer, & Shaver, 2011). As a result, their feelings of distress are amplified (Chia-huei, 2009). Second, some studies (e.g. Tasca et al., 2009) have shown positive relations between anxious attachment and deregulated expression of emotions. Test success depends on regulation of stress and anxiety, which can be harmed by anxious attachment. Third, anxious attachment is characterised by a fear of social rejection. Failure on tests might be perceived as a risk factor for social rejection, as is the case for the social derogation component of test anxiety. Finally, studies have shown that anxious attachment is related to dependency on others (e.g. Cantazaro & Wei, 2010), and that individuals with anxious attachment react to perceived threats by seeking closer contact with others (Mikulincer, Orbach, & Iavnieli, 1998). As testing is a very individualistic task, people with anxious attachment might feel helpless in these self-reliance situations. In contrast, some characteristics of avoidant attachment may buffer test anxiety. Individuals with avoidant attachment tend to deny their feelings of distress (Chia-huei, 2009) or to suppress them (Mikulincer & Shaver, 2007). These individuals try to minimise the importance of threatening stimuli and are quick to take self-protective action (Ein-Dor et al., 2011). For them, therefore, test anxiety might not be experienced to its fullest extent. Moreover, avoidant attachment is characterised by self-reliance, which perfectly fits the demands of test situations. On the other hand, we still expect some positive correlations between test anxiety manifestations and avoidant attachment. The avoidance attachment literature shows attention biases that are linked to the avoidant attachment, such as diverting attention from threat-related cues (e.g. Edelstein & Gillath, 2008; Niedenthal, Brauer, Robin, & Innes-Ker, 2002), which might contribute to making more mistakes. Nevertheless, these contradicting trends may cancel each other out, so that no relations will be found between avoidant attachment and test anxiety. In summary, the relations between test anxiety and anxious attachment are expected to be stronger than between test anxiety and avoidant attachment (Dan, Ilan & Kurman , 2013). young adults college students reported higher cognitive obstruction and tenseness and higher social derogation than will adolescent high school students (Dan, Ilan & Kurman , 2013). Young adult college students exhibited higher cognitive obstruction and tenseness test anxietythan did adolescent high school students. Young adult college students reportedmore symptoms of poor concentration, failure to recall and difficulties in effectiveproblem solving as well as more physical and emotional discomfort before orduring a test compared with adolescent high school students. These differences aremost likely due to the increasing demands and pressure for academic accomplishmentsand the greater complexity of learning materials and tasks in collegecompared with high school (Zeidner, 1998). These results are also in agreementwith the suggestion that test anxiety increases with age (McDonald, 2001). Test anxiety was positively related to attachment anxiety (Dan, Ilan & Kurman , 2013), in agreement withthe suggestion that anxious attachment is associated with anxiety (Eng et al., 2001; Lee &Hankin, 2009), and with the influence of family relationshipson test anxiety (Peleg, 2004). In addition to effects of family interactions,attachment dimensions reflect the internalised perception of close relationship, andaffect test anxiety in college students (Dan, Ilan & Kurman , 2013).

(Bitsika & Sharpley , 2012).

12.3 Risk and protective factors of psychosocial adjustment. Kraemer, Kazdin, and colleagues (1997) define a risk factor as a measurable characteristic of a subject that precedes and is associated with an outcome. **Risk** factors can occur at multiple contexts or domains, including both individual but also interpersonal factors. they act at biological, psychological, family, community, and cultural levels (Crews, Bender, et al., 2007; Luthar, 2003; O'Connell, Boat, & Warner, 2009), and multiple risk and protective factors may be at play at the same time (O'Connell, Boat, & Warner, 2009). Speaking from a developmental perspective, these factors also differ across developmental periods, with some risk factors that are only predictive from the young adult time period (Stone, Becker, Huber, & Catalano, 2012). It is

salso possible to differentiate risk factors for which there is within-subject change over time (variable risk factors) from those that do not change (e.g., gender, ethnicity, genotype—fixed markers) (Kraemer, Kazdin, et al., 1997).

On the other hand, protective factors are defined as characteristics at the individual, family, or community level that are associated with a lower likelihood of problem outcomes. Protective factors also allow to reduce the negative impact of a risk factor (Luthar, 2003).

Following a dimensional perspective, the same variable can be identified as a protective factors or as a risk factor, depending on the direction in which it is scored (e.g., high levels of secure attachment style versus low levels of secure attachment style, low attachment anxiety versus high attachment anxiety; Crews et al., 2007; Masten, 2001; Luthar, 2003). Within this continuous approach, it is possible to distinguish the effect of protective and risk factors from considering them as the extreme ends of a continuum that goes from protection to risk (Luthar, 2003; Rutter, 2003; Stouthamer-Loeber, Loeber, et al., 1993).

Risk and protective factors tend to be correlated and to have cumulative effects (Pollard, Hawkins, & Arthur, 1999).

Furthermore, the presence of multiple risk or protective factors tends to strengthen the prediction of disorder or positive development (Sameroff, Gutman, & Peck, 2003; Goodyer & Altham, 1991; Fergussson & Horwood, 2003; Wyman, 2003).

A common finding in the study of major risk factors is that each is associated with an increased likelihood for multiple problem outcomes (e.g., Shanahan, Copeland, et al., 2008; Kessler, Davis, & Kindler, 1997).

A major analytic issue is whether associations between the risk factors and multiple disorders are due to the direct effects of these risk factors or to confounding variables that are associated with both the risk factors and with the disorders. One possibility is that the associations between risk factors and multiple disorders could be accounted for by the covariance between risk factors. The other possibility is that a risk factor is related to a particular disorder independently of its relations to other disorders.

Moreover, specific risk factors like, for example, somatic risk and social isolation, had a specific relation with internalizing problems (Cohen, Brook, et al., 1990).

Research described multiple statistical methods —main effect, moderational, and mediational models— by which risk and protective factors influence each other and the development of emotional and behavior problems over time (Cichetti & Toth, 1992; Masten, 2006) and resilience (Luthar, 2003).

13. Dimensional perspective in assessment

Research about psychopathology and personality disorder suggests psychopathology can be best understood in reference to dimensions rather than discrete categories or classes. In fact, a large percentage of individuals in clinical settings, where there is independent evidence for personality disturbance, do not fit into an existing personality disorder.

The present work starts from a dimensional perspective of personality functioning and adjustment. In fact, the importance of a dimensional perspective has been supported in several studies, and with regards to several constructs, including personality, attachment, and SAD.

13.1 Dimensional perspective in personality. Following dimensional approach, personality traits should not be conceived of as categorical variables, but as continua (Fleeson, 2001; Widiger & Simonsen, 2005). Each individual has the capacity to move along each dimension as circumstances (social or temporal) change. He is or she is therefore not simply on one end of each trait dichotomy but is a blend of both, exhibiting some characteristics more often than others (Fleeson, 2001).

Personality is assumed to range from adaptive and nonpathological, through normal or typical trait levels, to maladaptive and pathological (Krueger & Markon, 2013). In fact, insofar as personality has been shown to be an important modifier of a wide range of clinical phenomena (e.g., Rapee, 2002), a dimensional model strengthen not only PD diagnosis, but DSM-5 as a whole (skodol, bender, morey, et al., 2011). Many professionals have argued for the advantages of a dimensional model for personality disorder diagnosis (Lowyck, Luyten, Verhaest, Vandeneede, & Vermote, 2013; Morey et al., 2011; Shedler et al., 2010; Widiger, 2011), which provide greater clinical utility, a better explanation for comorbidity, and has more empirical support than earlier models (Morey et al., 2011; Skodol et al., 2011).

There are n**o** clear boundaries between normal and pathological personality. The continuity between normality and pathology in personality is well documented, from the extensive body of normal personality psychological research conducted over the last 90 years (Allport, 1921; Skodol, Bender, Morey, et al., 2011) and recent reviews and meta-analyses that have documented that an integrative structure can encompass the entire domain (Markon, Krueger, & Watson, 2005; O'Connor, 2002, 2005; Saulsman & Page, 2004; Trull & Durrett, 2005).

Limits of the cathegorical approaches, compared to the dymensional one, are in fact well-known, both in diagnostic and in treatment settings (Shekim, Cantwell, Kashani, Beck, Martin, Rosenberg, 1986; Strube, 1989; Widiger & Simonsen, 2006).).The dimensional/categorical distinction refers to whether people are assumed to fall into discrete categories or to vary along a continuum, Several are limits of categorical approach, compared to dimensional one, both in diagnostic and in treatment settings (Shekim, Cantwell, Kashani, Beck, Martin, Rosenberg, 1986; Strube, 1989; Widiger and Simonsen, 2006). Most clinicians and researchers know that categorical convention when is rigidly applyed, for example when it patients who fall even one criterion below threshold are considered to no longer have the categorical diagnosis, is a fiction. Concerns have been repeatedly raised related to the exclusively categorical personality disorder classification adopted by the *DSM* and, specifically, the failure of the categorical system to adequately capture clinically relevant personality disturbance (e.g., Clark, 2007; Finn, Arbisi , Erbes , Polusny & Thuras, 2014; Grove &Tellegen, 1991;Widiger, 1993).

The integration of the APA personality disorder nomenclature with dimensional models of general personality functioning addresses many of the problems of the DSM-IV categorical model of classification (Livesley, 2003; Widiger & Mullins-Sweatt, 2005), as well as providing a firmer scientific base for the construct validity of the nomenclature.

13.2 Dimensional perspective in attachment. Understanding attachment in terms of dimensions as opposed to categories—specifically, the avoidant and anxious dimensions—has been recently suggested as a helpful strategy (Tasca et al., 2004; Shaver & Mikulincer, 2002). Furthermore, the dimensional approach has been found to yield four to five times the variance as the strictly categorical approach (Brennan, Clark, & Shaver, 1998).

However, of particular concern for the authors of DSM-V is matters of clinical utility, compared to previous versios of the DSM (Livesley, 2003; Maser, Kaelber, and Weise 1991).

13.3 Dimensional perspective in anxiety. The continuity between normality and pathology is not unique to personality. For example, subclinical anxiety and depression also have large literatures, and repeatedly have been shown to be continuous with more severe manifestations of these disorders (e.g., Judd, Schettler, & Akiskal, 2002).

13.4 Dimensional perspective in SAD. Few existing instruments have assumed that SAD is a dimensional construct representing an underlying personality trait (Boyce, Parker, 1989; Manicavasagar, Silove, Wagner, & Drobny, 2003). The latent structure of ASAD was best represented as an extreme point on a continuum of separation anxiety (ie, a continuous/ dimensional structure) suggesting that adult separation anxiety is best represented as dimensional rather than a categorical construct (Meehl, Yonce, 1996; Waller, Meehl, 1998; Ruscio, Borkovec, Ruscio, 2001; Ruscio, Ruscio, Keane, 2002; Silove et al., 2007).

PART II
THE PRESENT RESEARCH

Introduction

In the present work, starting from a prevention perspective, through a specific focus on symptomatic indicators of the internalizing spectrum, some developmental features of psychological functioning and adjustment were analysed.

The present work comprised two studies:

1) *Study 1* focused on preliminary analysis of PAI psychometric properties

2) *Study 2* focused on the association among psychological variables, that are related to individual psychosocial functioning and adjustment

1) Study 1: psychometric properties of the PAI

Aims

The first work analysed data coming from a larger research project, aiming to the italian adaptation of the PAI, that involves the collaboration of several Italian universities. Therefore, since Italian validation of the PAI is still in progress, no previous works were published on Italian samples. For this reason, Study 1 aimed to a preliminary investigation of PAI psychometric properties, in terms of construct validity and reliability, in order to understand PAI suitability for the assessment of psychological functioning in young adults.

In the present work, the PAI was among selected instruments since it was internationally considered as a valid and reliabille instrument for psychosocial functioning and adjustment assessment, also in young adults (e.g., Blais & Baity, 2010; Calhoun, Boggs, Crawford, & Beckham, 2009; Morey, 2007; Morey et al., 2011; Ruiz, Cox, Magyar, & Edens, 2013).

Previous studies addressed psychometric properties of the PAI, limiting their focus on a limited number of PAI scales (Hopwood & Moser, 2011; Jackson & Trull, 2001; Ruiz & Edens, 2008). On the other hand, few studies focusing on the overall factor structure of the PAI (Morey, 2007; Hoelzle & Meyer, 2009), reported some contrasting results, therefore highlighting difficulties in achieving unanimously consistent factor structure.

Therefore, specifical aim of Study 1 was to analyze reliability and construct validity of the PAI. Construct validity was specifically analyzed by means of, respectively, factor structure, discriminant validity, and convergent and divergent validity.

Method

Participants:

Participants were 1180 subjects (M=22.21, SD= 2.70 years of age), 819 women (69.4%) and 361 men (30.6%). 691 participants (58.6%; *n*=507 women, *n*=184 men) were psychology students, which were recluted from several Italian Universities, that were dislocated in the north (42.3%), center (35.5%), south and isles (22.2%). The other 489 participants were represented by students from faculties other than psychology (31%), workers or occasional workers (44%), unoccupied (16%), while a small part of them not reporting these information (9%).

Consistently with Morey's (1991, 2007) recommendations about protocols validity, no protocols were excluded for data incompletion (more than 17 items unanswered), while 9% were considered invalid due to unusual high scores on validity scales (ICN $T \geq 73$; INF $T \geq 75$; NIM $T \geq 84$; PIM $T \geq 68$).

Participants were all Italians, with an age from 18 to 29 years old. Exclusion criteria included reporting previous psychiatric hospitalization, and psychological treatment or testing. Questionnaires were filled in a voluntary and anonymous way. With regards to participants who were university students, the battery was administered at undergraduates enrolled at psychological courses in Universities that are dislocated in different Italian cities. For participants that were not students, the administration took place at their home. The researcher left a protocol to each participant, who had 1 week of time to give it back completed. Although information on ethnic origin was not collected from participants, participants were predominately White.

Measures

Personality Assessment Inventory (PAI; Morey, 1991) is a self-report multiscale personality and psychopathology inventory for people from 18 years and older. It allows a differentiated assessment of personality dimensions, through the use of conceptually derived scales, designed to describe the full breadth of complex clinical

constructs, including interpersonal, clinical, and tratment ones, also comprising valid indicators of potential profile distortion (Morey, 2007).

It provides 344-items on a 4-point Likert scale (from 0=*False, 1=Slightly True, 2=Mainly True,* and 4=*Very True)*, that uniquely contribute to 22 nonoverlapping scales covering the constructs most relevant to a broad-based assessment of mental disorders: 4 Validity scales, 11 Clinical scales, 5 Treatment scales, and 2 Interpersonal scales). In order to facilitate interpretation and to cover the full range of complex clinical constructs, 10 scales contain conceptually derived subscales (e.g., cognitive symptoms of depression).

Items lead to 22 nonoverlapping scales: 4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales. Ten of the scales contain conceptually derived subscales designed to facilitate interpretation and coverage of the full breadht of complex clinical constructs. In the following pages, a brief presentation of PAI scales is proposed.

The four scales that investigate **protocol validity** are:

- The ICN (Inconsistency, 10 items). This scale investigates whether the subject responds consistently to items of similar content.
- The INF (infrequency, 8 items). This scale checks if the individual has responded to the items in random, confusing or atypical way.
- The NIM (Negative Impression, 9 items). This scale consists of items that describe bizarre and unlikely symptoms that the person might claim to have in order to simulate some mental illness or in order to exaggerate their psychological condition.
- The PIM (positive impression, 9 items). This scale contains items for the analysis of behavior displayed by the subject to appear in a favorable way, or it can refer to attitudes of reluctance that the individual has towards defects.

The PAI **Clinical scales** were developed to provide information about diagnostic features of 11 important clinical constructs. These 11 scales may be conceptually divided into three broad classes of disorders: those within the neurotic spectrum, those within the psychotic spectrum, and those associated with behaviour disorder or impulse control problems. The scales and their subscales are:

- The SOM (Somatic Complaints, 24 items) investigates the presence of health and physical complaints typically associated with somatization (SOM-S), conversion (SOM-C), and physical health concerns (SOM-H).
- The ANX (Anxiety, 24 items) checks for the significant presence of anxiety and tension. The three sub-scales are the ANX-C (which indicates ruminative worries that impair concentration and attention), the ANX-A (which indicates feelings of tension, apprehension and nervousness), and ANX-P (which indicates physiological signals commonly associated with anxiety).
- The ARD (Anxiety related disorders, 24 items) and its sub-scales investigate symptoms and / or behaviors related to anxiety disorders. The ARD-T probe whether the person lived disturbing or stressful events that continue to annoy even at present; ARD-O analyzes the possible presence of aspects that refer to an obsessive-compulsive disorder (or simply personality traits linked to this disorder), and finally the ARD-P measures the presence of phobias.
- The DEP (Depression, 24 items) investigates the sphere related to depressive symptoms. Its three sub-scales are the DEP-C (expectations and beliefs of inadequacy or attitudes of helplessness in dealing with environmental requests), DEP-A (feelings of sadness, dissatisfaction or loss of interest), and the DEP-P (vegetative symptoms of depression such as sleep disturbance, decreased energy, etc..).
- The MAN (Mania, 24 items) measures the presence of agitation or impulsivity. Its three subscales are the MAN-A, G-MAN and MAN-I that analyze, respectively, the energy levels, feelings of grandiosity and finally investigate whether the interpersonal relations are strained due to the fact that the subject thinks that others do not include his needs or his ideas.
- The PAR (Paranoia, 24 items) suggests the presence of suspiciousness and hostility towards other. Its sub-scales are the PAR-H (which investigates the presence of hyper-vigilance attitudes to the outside world), the PAR-P (which investigates if the subject believes that other people unfairly treated, and wanted to damage him), and the PAR-R (indicating the presence of cynicism and resentment towards others).
- The SCZ (Schizophrenia, 24 items) suggests the presence (or not) of symptoms of schizophrenic spectrum. The sub-scale SCZ-P indicates whether the subject is experiencing unusual sensory and perceptual

events, the SCZ-S provides information on the possible social isolation of the individual, and if he feels discomfort in social interactions, whereas the SCZ-T indicates whether the person is confused and experience troubles in concentration.

- The ALC problems (Alcohol, 12 items) investigates the presence of disorders related to alcohol use and / or abuse.
- The DRG (Problems of Drug, 12 items) investigates the presence of disorders related to drug use and / or abuse.

The 11 clinical scale of the PAI include two scales that specifically assess character pathology, the Borderline Features scale and the Antisocial Features scale. Moreover, the Borderline Features scale is the only PAI scale that has four sub-scales, reflecting the factorial complexity of the construct.

The BOR (Borderline Features, 24 items) investigates the presence of behaviors related to a borderline personality structure, which unstable relationships, impulsivity, emotional lability, and a little (or no) control of anger. The sub-scales are the BOR-A (humoral changes and emotional control), the BOR-I (feelings of emptiness and dissatisfaction), the BOR-N (experience of intense and ambivalent relations), and the BOR-S (impulsivity).

• The ANT (Antisocial Features, 24 items) investigates the absence of empathic attitudes, emotional instability, and problems with the law. Its subscales are the ANT-A (which investigates if the subject committed antisocial behavior both in adolescence and adulthood), the ANT-E (which suggests the presence of insensitivity and lack of empathy), and ANT-S (which investigates whether a subject committs risky behaviors and if he continually search for strong stimulations).

The instrument also includes **treatment scales**, developed to provide indicators of potential complications in treatment that would not necessarily emerge from diagnostic information. These five scales include two indicators of potential harm for self or others, two measures of the respondent's environmental circumstances, and one indicator of the respondent's motivation for treatment.

- The AGG (Aggression, 18 items) investigates the possible presence of chronic anger and potential aggressive behavior. It provides three subscales which are the AGG-A, which indagate the tendency to be frustrated or irritated and to bring hostilities in interpersonal situations in which, for example, the individual is criticized, the AGG-V which is the tendency to implement a verbally aggressive attitude towards the others as a method of venting anger, and the AGG-P, which investigates whether the subject tends to enact aggressive behavior.
- The SUI (Suicidal ideation, 12 items) investigates whether the person has suicidal ideation.
- The STR (Stress, 8 items) checks if the subject is experiencing a stressful situation.
- The NON (Non Support, 8 items) suggests if the individual perceives a lack of social support.
- The RXR (Refusal of treatment, 8 items) investigates whether the respondent is reluctant to recognize their difficulties and is resistant to change.

The **Interpersonal scales** were developed to provide an assessment of the respondent's interpersonal style along two dimensions: a warmly affiliative versus a cold rejecting style, and a dominating/controlling versus a meekly submissive style. These axes provide a useful way of conceptualizing many different mental disorders: persons at the extremes of these dimensions may present with a variety of disorders. A number of studies provide evidence that diagnostic groups differ on these dimensions. Interpersonal scales provide valuable information regarding individual's relationships and interactions.

- The DOM (Dominance, 12 items) investigates whether the subject shows a dominant attitude against other people, and if he has a low tolerance level towards people which he disagree with.
- The WRM (Warm, 12 items) analyzes warmth in interpersonal relationships.

The protocol also provides additional indicators of validity, three additional indices, and 27 critical items to the survey of psychopathology that will not analyzed in the present study.

PAI scores are presented as linear T scores, with a mean of 50T and a standard deviation of 10T, that are calibrated on a national census matched community sample of 1000 adults, stratified for age, ethnicity and gender, according to United States census projection for the year 1995 (U.S. Bureau of the Census, 1984). Separate T-scores

calibration also regarded representative samples respectively of clinical individuals (N=1246) and college students (N=1051). Because PAI T scores are referenced against a community sample, a score of 60T represents a person who lies on the 84th percentile in terms of experiencing symptoms and problems of a particular type, whereas scores of 70T represent a score at about the 96 percentile for most scales (Morey, 2007), also representing a degree of problems and symptoms quite unusual in the general population, that most likely indicates a problem of clinical significance.

The purpose of the PAI is to provide informations that contribute in assisting diagnosis, treatment and screen for mental disorders (Morey, 1997). To this aim, the PAI taps at several areas of functioning, in line with *DSM-IV* (APA, 1994) and *DSM-IV-TR* (APA, 2000) general diagnostic criteria for PDs, such as: Cognition (i.e., ways of perceiving and interpreting self, other people, and events) Affectivity (i.e., the range, intensity, lability, and appropriateness of emotional response) Interpersonal functioning, and Impulse control. The PAI also has an important focus on personality disorders, in line with DSM-IV.

The PAI (Morey, 1991, 2007) has several strengths and attractive features (ansell et al., 2011). Respondents are asked to respond to items using. This will provide a better chance of response than simple dichotomous choice between "True" and "false". For example, the four-point scale prevents respondents from being forced to choose an answer that does not truly reflect them. The scale is also economical with only 344 items, providing much crucial information with regard to relevant constructs for the clinical personality assessment. It is also easy to understand, requiring only a 4th-grade reading level (Morey, 1991).

Self-report personality inventories in research and clinical settings are not numerous, which makes the PAI a useful tool in this field. The PAI is also a valid alternative to the MMPI-2 (Minnesota Multiphasic Personality Inventory-Revised; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989).

The PAI, compared to most multiscale inventories used for personality assessment, includes a theoretical foundation, and its final items were selected using both rational and empirical approaches (Morey, 2007).

PAI constructs were selected for their stability in the clinical lexicon, acceptability across orientations, and clinical applicability or importance (Morey, 1991). They represent a reasonable sampling of most of the issues with which most mental health clinicians are concerned with respect to most patients. This includes common psychopathology constructs, such as anxiety, mood, and substance use disorders, as well as other important clinical issues such as aggression, suicidal ideation, treatment motivation, and environmental stress and support. Second, like other broadband psychopathology measures (e.g., Sellbom & Ben-Porath, 2005), the PAI has higher-order factors with clear links to normal personality traits, including internalizing (i.e., negative affectivity; neuroticism), externalizing (disinihibition, [low] conscientiousness), and social dominance (extraversion; Hoelzle & Meyer, 2009; Hopwood & Moser, 2011; Morey, 2007).

Moreover, Ansell and colleagues (ansell et al., 2011) specifically underline the importance of the PAI interpersonal scales. The authors affirm that the PAI addressed continued criticisms that multiscale inventories ignore interpersonal behavior, by including two interpersonal scales, Dominance (DOM) and Warmth (WRM) about individual's interpersonal style. One exception is the PAI. It includes two scales for the assessment of interpersonal style (ansell et al., 2011), Dominance (DOM) and Warmth (WRM), which purport to measure the main two dimensions of the interpersonal circumplex model (IPC) (e.g., Leary, 1957;Wiggins, 1979), also showing good psychometric properties, with regards to validity and reliability (Ansell et al., 2011; Morey, 1991, 2007).The original test manual for the PAI reports good internal reliability for bothWRMand DOM, with coefficient alphas ranging from .78 to .83 across the community, clinical, and college normative samples (Morey, 1991). Test–retest correlations over a 4- week interval are reported at .68 forDOM and .77 for WRM.The original validation studies of DOM and WRM also showed good convergent and discriminant validity with other measures of interpersonal warmth and dominance, the Wiggins's Interpersonal Adjectives Scale (IAS; Wiggins, Trapnell, & Phillips, 1988) and the Inventory of Interpersonal Problems–Short Circumplex (IIP–SC; Soldz, Budman, Demby, & Merry, 1995), which focus on basic interpersonal traits (IAS) versus interpersonal problem behaviors (IIP–SC), also support the utility of the PAI interpersonal scales in assessment of the IPC model.

Compared to other measures, the PAI has some important advantages. Among these, non overlapping scales, that, differently from some of the more commonly used personality disorder self-report inventories, such as the Millon

Clinical Multiaxial Inventory-III (Millon, Millon, & Davis, 1997) and the MMPI-2 personality disorder scales (Colligan, Morey, & Ovord, 1994), allows a better differentiation among different constructs, thereby increasing discriminant validity between scales and decreasing the artifactual relationship between scales.

It is useful to obtain a differentiated description of psychological maturation, in terms of personality and psychopathology, in young adults, since it was validated on large samples of young adults between 18 and 29 years, both university students and working individuals, in order to assess an array of emotional, behavioral, and somatic features (Morey et al., 2011). It is easy to understand, since it requires only a fourth grade reading achievement level, and quick to administer, since its adminisration takes 50-60 minutes.

Development of the PAI. The PAI was developed in 1991 by Leslie C. Morey, professor of Psychology of Texas A & M University, for personality assessment and in order to gain useful informations for clinical assessment and psychopathology screening, not culturally biased against genders and ethnic minorities (Morey, 1991). Since the aim was to cover the most important aspects and characteristic of each of the disorders examined by the instrument, the development of the PAI was based on a construct validation framework that stressed empirical methods and content-driven considerations (Morey, 2007).

PAI item construction went through several phases. In a first stage of evaluation, the conceptual meaning of item content wa addressed. To this aim, a first pool of 2200 items were rated by researchers and professionals that evaluated item content, with regard to ambiguous wording and eventually item offensiveness to any social group. Of the 1086 remained items, a bias review panel identified some items as being confusing or unrepresentative with respect to issues of several demographic features. Finally, an expert sorting task was developed to assess the appropriateness of item contents as assessed by a panel of eight experts in psychopathology, giving an agreement ranging from 62% to 100% for individual scales. The 776 remaining items, comprised the initial alpha version of the PAI, and underwent a two-tiered empirical evaluation strategy. The initial tire involved the administration to a sample of non clinical adults, aimed to examine item distributions, social desiderability, gender effects, and manipulations of response set. A total of 597 items were then selected for the beta version of the PAI and administered to a heterogeneous sample of both non clinical and clinical individuals. This second tire regarded three samples respectively of non clinical adults, clinical adults and psychology students, and was aimed to examine internal consistency, specificity, internal validity, and possible biasing influences due to age, gender, or ethnicity. The 344 items of the final beta version of the PAI represented those with the best balance with regards to parameters like item means, discrimination correlates, and item transparency. This version underwent further studies of validity and reliability.

When it was first introduced, the PAI was described as “a substantial improvement form a psychometric perspective over the existing standard in the area” (Helmes, 1993, p.417) and as “one of the most exciting new personality tests” (Schlosser, 1992, p.12).

Actually, the PAI is a popular tool used both for research, clinical and psycholegal **purposes** (Hopwood, & Moser, 2011), representing one among the most widely internationally used instruments for personality assessment, the fourth among most frequently used objective tests (Belter e Piotrowski, 2001; Lally,2003).

Actually, PAI is a widely used (e.g., Archer, Buffington-Vollum, Stredny, & Handel, 2006; Smith, Gorske, Wiggins, & Little, 2010) instrument for the assessment of an array of emotional, behavioral, and somatic features, also including a variety of indicators of potential profile distortion that demonstrated strong psychometric properties in several studies (Blais, Baity, and Hopwood , 2010; Morey, 1991, 1996; Stein , Slavin-Mulford , Sinclair , Siefert & Blais, 2012; Magaletta, Faust, Bickart, and McLearen, 2012; Morey, Lowmaster, Coldren, Kelly, & Parish, 2011). The American version showed good psychometric properties in terms of reliability, validity, and diagnostic sensitivity (Morey et al., 2007). The PAI is considered, in USA, and in many European countries, among the most psychometrically reliable multidimensional instruments, which psychometric properties were supported as regards the assessment of personality and psychopathology respectively in clinical and non clinical samples, and also specifically in university students (Lyrakos, 2011).

The Italian translation of the questionnaire was carried out with the author’s permission and back-translated following the guidelines suggested by Van de Vijver and Hambleton (1996), and according to guidelines developed by the international committee of psychologists of the International Test Commission for backtranslations (van de Vijer & Hambleton, 1996).

‘Personality’ is a construct more complex than personality traits. The Personality Assessmente Inventory (PAI, Morey, 2007) also identify and add traits, providing an assessment of broader aspects of functioning, like self and other representation. Morey provides a more complex and structured personality assessment approach, in this way becoming more similar to DSM5 diagnostic approach.

With regards to this last point, the PAI provides, for each one of its personality dimensions, an assessment that informs about individual normality or, conversely, psychopathology degree.

Since research underlined the importance of assessing pathological range of personality functioning, trait theories were asked to explain the existing link between normal personality traits and personality disorders, providing instruments that showed a focus also on the pathological polarity of personality. From this poin of view, the **PAI**, allows to detect, for each personality dimension, the position of the individual along a continuum that goes from normality to psychopathology of functioning **,** since it analyzes trait polarity (e.g., anxiety).

Although it is not directly based on the DSM, the PAI showed a good correspondence with the integrative personality hierarchy embedded in the DSM-5 traits, supporting that clinicians could use the PAI also to make inferences about the DSM-5 traits (Hopwood et al., 2013).

These findings imply the potential for integrating personality and psychopathology through trait approach, and using the PAI to assess for pathological personality traits as represented in the *DSM-5* (hopwood et al., 2013), which can be thought of as reflecting broad psychological systems that connect personality, psychopathology, and clinically relevant behavior.

In a student sample (N = 1001), Hopwood and colleagues (2013), through bivariate correlations and a conjoint explorative factor analyses, found broad convergence between the DSM-5 traits and the PAI.

The Somatic Complaints scales loaded with Psychoticism, which may reflect the tendency of disordered thinking to involve somatic content. This loading may also be due to the unusual nature of certain Somatic Complaints items, such as those focusing on conversion symptoms. Anxiety and Anxiety-Related Disorders scales tended to load onto Negative Affect, as would be expected. Depression scales loaded on Detachment, as well as Disinhibition and Psychoticism, similar to the pattern for PID-5 depressivity. Finally, Dominance loaded positively on Antagonism and Warmth loaded negatively on Detachment, suggesting correspondence between the interpersonal dimensions across instruments.

A short form of the PAI (PAI-Short Form, PAI-SF; Morey, 1991) is also available, which is simply composed by the first 160 items of the questionnaire in extended form, which were chosen based on their level of significance. The short form can be useful in particular in research environments or with patients who have considerable difficulties in sustaining attention for long periods (eg people or patients hospitalized with brain injury). Finally, it may be necessary to consider only the short version of the questionnaire in situations where the subject refuses to complete the protocol (after having completed the first part), or when it is possible that the subjects have responded randomly the last item (Hopwood & Morey, 2004). Regarding the PAI-SF were confirmed both the reliability, and the internal coherence (Morey, 2007).

PAI factor structure. Few studies investigated PAI factor structure, therefore literature about CFA carried out on factor structure of the PAI is limited and also provides contrasting results. Morey (1991, 2007) reported that a four-dimensional structure underlies the full set of scales in the normative sample: (a) subjective distress and affective disruption, (b) behavioral acting out and impulsivity, (c) egocentricity and exploitativeness in relationships, (d) social detachment.

PAI dimensional structures emerged across nonclinical samples were more consistent with one another, compared to those produced from clinical samples.

Frazier, Naugle, and Haggerty (2006) extracted four components, reporting good congruence (all *r*s > .86) with four dimensions structure reported by Morey (1991). Deisinger (1995), employing different factor analytic methods than Morey (1991), found a four-factor structure that she believed was consistent with the nonclinical components reported in the manual, although minor differences were observed on the fourth dimensions. Recently, Groves and Engel (2007) in a German normative sample found a four-component structure that was similar to Morey’s (1991) nonclinical components. Hoelzle & meyer (2009), when analysing the complete set of 22 scales through multiple recommended component retention procedures (i.e., PA-parallel analysis, MAP-minimum average partial procedure, inclusion of random variables), provided converging support for retaining three components.

Across samples, these components evaluate (a) general symptomatology and distress; (b) antisocial practices, substance abuse, and carelessness; and (c) dominance, mania, inflated self-esteem, stimulus seeking, and aggressiveness (hoelzle and meyer, 2009).

However, dimensional structure discrepancies have been presented across samples (Hoelzle & Meyer, 2009). For example, analyzing only the **11 Clinical scales**, Morey (1991) reported a three-dimensional structure emphasizing (a) subjective distress and affective disruption, (b) behavioral acting out and impulsivity, and (c) egocentricity and exploitiveness in relationships for the clinical sample; whereas a two-dimensional structure that emphasized only subjective distress and affective disruption and behavioral acting out and impulsivity was observed for the nonclinical sample. There is reasonable correspondence for Component/Factor 1, subjective distress and affective disruption across independent samples (e.g., hoelzle & meyer, 2009), but some differences emerged for the other dimensions. Morey (2007) therefore, although the PAI dimensional structure has been investigated numerous times, it is challenging to definitively describe its higher order factors across samples (hoelzle & meyer, 2009).

Among potential reasons why discrepant PAI dimensional structures may have been observed in the literature, it is possible to cite sample-based (e.g., patient or nonpatient sample; single-gender or combined-genders sample) and methodological (e.g., number of PAI scales, validity criteria, factor analytic techniques) differences (hoelzle & meyer, 2009).

Literature has not suggested the structure of instruments differs in notable ways because of gender (e.g., see Byrne, Baron, & Balev, 1996; Byrne, Baron, & Campbell, 1994, 1993; Byrne, Baron, Larrson, & Melin, 1996). Although it is widely accepted that males and females endorse certain types of items differently, the correlations between items and scales remain similar. Thus, there is minimal support for the notion that sample differences in gender would produce discrepant dimensional structures (hoelzle & meyer, 2009).

Methodological Considerations. Also the number of scales analyzed can contribute to differences in component/factor structures across studies because changing the number of marker variables analyzed will change the pattern of correlations among variables. Since, generally, three or more marker scales are needed to define a distinct dimension (e.g., see Velicer & Fava, 1998), most researchers have followed Morey's (1991) example and included the validity scales in the component/ factor matrix.

Understanding the PAI's dimensional structure has been of great interest to researchers and clinicians alike. From a measurement perspective, this is problematic because it is necessary for a scale, factor, or multidimensional test to work similarly across samples if one is to have confidence drawing conclusions from the data it provides. For the PAI, a consistent, replicable component structure fosters a clear understanding of how its scales elevate and suppress in combination, which facilitates accurate clinical interpretation across settings, samples, and contexts. Literature has suggested there may be different factor structures across samples, maybe also due to many sample-based and methodological differences across investigations (Morey, 2007).

Reliability and validity of the PAI

With regard to the English validation of the questionnaire, statistic analyses were based on data from an American sample consisting of 1000 non clinical individuals (from 11 different U.S. states), 1051 college students and 1246 individuals with clinical syndromes (coming from 69 different structures). Good levels of internal consistency were found both in nonclinical and in clinical samples in different countries of the world (e.g., Boyle and Lennon, 1994; Rogers, Flores et al., 1995; Tasca, Wood, and Bissada Demidenko, 2002; Karlin et al., 2005). Several studies also found good levels of both convergent and the discriminant validity (Morey, 2007).

Moreover, substantial and theoretically meaningful connections have been demonstrated between the Personality Assessment Inventory and other instruments, like the PID-5 (Hopwood et al., 2013).

Data analysis

Data transformation. As regards PAI scale scores, owing to positive skew in the distributions of the symptom count variables, that is typical of a community sample, a normalizing (Blom) transformation, that is available as an automated option in SPSS, was used (Beasley, Erickson, & Allison, 2009; Hicks, 2004; Hicks, Krueger, Iacono, McGue, & Patrick, 2004; van den Oord et al., 2000). After the Blom transformation, T-score conversion was carried out on scale scores in order to make them directly interpretable, with a mean of 50 and a standard deviation of 10.

Descriptive statistics: After scale scores transformation, preliminary statistical data exploration was carried out, in order to investigate distribution of item and scales mean scores, standard errors, skewness, and kurtosis.

Reliability: In order to investigate internal consistency of single PAI scales, Cronbach's alphas indices were assessed, and a 95% confidence interval (95% CI) around the alpha value was calculated.

Construct validity:

Confirmatory Factor Analysis: with the aim to replicate Morey's proposed PAI factor structure (Morey, 1991, 2007), data were submitted to confirmatory factor analysis (CFA), that is based on the structural equation model (SEM). Since in the present work Validity scales were considered as indicators of error in measurement, rather than as measures of a construct, CFA analyses were carried out focusing only on the 18 –Clinical, Treatment, and Interpersonal- scales and related items, without considering the four Validity scales of Inconsistency, Infrequency, Positive impression, and Negative impression.

Three kinds of CFA were carried out (CFA1, CFA2, CFA3). CFA 1 and CFA2, in line with literature (Morey, 2007; Hoelzle & Meyer 2009), were run starting from normalized and T-transformed scale scores, considering these last as observed variables. Conversely, in the CFA 3, since the attention specifically focused on factor structures of each scale separatedly, it was items that were considered as observed variables. That is, CFA 3 was run starting from items scores.

CFA 1 and CFA 2, that were run on normalized and T-transformed PAI scale scores, were tested by means of robust ML estimation. ML is the most common method of estimation within CFA which assumes that the observed variables are continuous and normally distributed (e.g., Bollen, 1989; flora & curran, 2004) and also provides asymptotically unbiased, consistent parameter estimates (Bollen, 1989; Finch, West, & MacKinnon, 1997; Muthén & Kaplan, 1985, 1992; West, Finch, & Curran, 1995). However, since multivariate normality assumption requirement in ML was not fulfilled given the presence of some outliers among the participants (Bollen, 1989; Coenders & Saris, 1995; DiStefano, 2002), robust ML method, basing on covariance and asymptotic correlation matrices for obtaining parameter estimations (Batista & Coenders, 2000), and evaluated using the Satorra-Bentler scaled chi-square that is appropriate for models estimated with nonnormal data (Satorra & Bentler, 2001), was considered as more suitable, since RML also received support in literature as producing estimates and standard errors that are equally good compared to RULS (Yang-Wallentin, Jöreskog, & Luo, 2010).

1. CFA 1: Starting from the 18 scale scores of the PAI, respectively, Clinical, Treatment and Interpersonal scales, and arising from factor structure models alreadly highlighted in literature (Morey, 1991, 2007; Hoelzle & Meyer, 2009), four first-order correlated factor models, among theoretical and empirical models reported in literature (Hoelzle & Meyer, 2009; Morey, 2007), were tested and compared in order to identify the factor structure underlying the 18 scales comprising the overall questionnaire: (1) Model 1, a monofactorial model with a 'Total' score (Model1); (2) Model 2, representing the conceptual differentiation between Clinical, Treatment, and Interpersonal scales (Morey, 2007); (3) Model 3, that reproduced the three factors of Symptoms, Impulsivity, Social detachment (Morey, 2007); (d) Model 4, that reproduced the three factors -General distress symptomatology (Somatization, Anxiety, Anxiety Related Disorders, Depression, Paranoia, Schizophrenia, Borderline, Suicidal, Stress, Non Support, Treatment Rejection, Warmth), Antisocial practices (Antisocial, Alcohol, Drug), and Dominance-mania (Mania, Antisocial, Aggressive, Dominance)(Hoelzle & Meyer, 2009). Afterwords, a correspondent CFA was carried out starting from item scores, that is, testing a second-order factor structures, but, because of software limitations, that was due to the large number of data to be analyzed, the robust ML (RML) method was used, instead of the more appropriate Robust ULS.
2. CFA 2: Starting from the 11 clinical scale scores of the PAI, respectively, Somatization, Anxiety, Anxiety related disorders, Depression, Mania, Paranoia, Schizophrenia, Borderline, Antisocial, and Alcohol problems scales, and arising from factor structure models alreadly highlighted in literature (Morey, 1991, 2007; Hoelzle & Meyer, 2009), several, among theoretical and empirical models that are reported in literature (Hoelzle & Meyer, 2009; Morey, 2007), were tested and compared in order to identify the factor structure underlying the 11 clinical scales. In order to evaluate the factor structure of the PAI, a confirmatory factor analysis was carried outin order to verify empirically which model models fitted data better. Four first-order correlated factor models were tested: (1) Model 1, a monofactorial model that simply considered factors as included in a general 'Total' clinical score; (2) Model 2, the three factor model theorethically conceptualized by Morey (2007), that represents the differentiation between, respectively, Clinical, Treatment, and Interpersonal scales; (3) Model 3, that reproduced the two-factors– simptoms distress and impulsivity-- structure emerged in previous EFA studies and

also reported in the PAI Professional Manual (Morey, 2007). Afterwords, a correspondent CFA was carried out starting from item scores, that is, testing a second-order factor structures, but, because of software limitations, that was due to the large number of data to be analyzed, the robust ML (RML) method was used, instead of the more appropriate Robust ULS.

3. CFA 3: In the third step, 18 several CFA models were carried out, one each of the 18 PAI scales. First-order analises were carried out, hypothesizing factors to be correlated. Moreover, for each of the 10 scales that were theoretically hypothesized to be characterized by an higher order structure, namely, Anxiety, Anxiety related disorders, Somatization, Depression, Mania, Borderline, Schizophrenia, Paranoia, Antisocial, and Aggression scales, a second-order model, with an higher factor (i.e., the total scale score) underlying the three correlated subscales, was carried out. In the present work, as regards the 10 scales that were hypothesized to be characterized by an underlying second order structure, second-order models were compared to first-order models, in order to eveluate their fit to data.

Since items were ordinal and presented a certain level of skewness and kurtosis, a robust asymptotic Unweighted Least Square method (RULS) based on polichoric correlations and asymptotic covariance matrices was used. In order to better approximate chi-square under non-normality, Satorra–Bentler scaling (Satorra & Bentler, 1994) was also used. As $\chi 2$ is considered sensitive to large sample sizes (Cheung & Rensvold, 2002; Ullman, 1996; Walker, 2010), its value was reported but not given much weight in terms of model selection analysis (Walker, 2010), that is, its failure to reach the appropriate value with $p>0.05$ was not considered problematic. The fit of each model was assessed by means of several fit indices, following rules of thumb suggested by Schermelleh–Engel, Moosbrugger & Müller (2003): for good fit, RMSEA≤.05 (the lower boundary of the 90 % confidence interval should contain zero for exact fit), SRMR≤.05, NFI≥.95, NNFI≥.97, CFI≥.97, GFI≥.95, and AGFI≥.90; for acceptable fit, RMSEA≤.08 (the lower boundary of the 90 % confidence interval <.05 for close fit), SRMR≤.10, NFI≥.90, NNFI≥.95, CFI≥.95, GFI≥.90, and AGFI≥.85.

Furthermore, as regards CFA 3, a **multi-group CFA** was performed in order to test single scales metric invariance, across, respectively, genders and occupation (psychology students vs non psychology students). Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and Expected Cross Validation Index (ECVI) were used as comparison between fit indices, considering models with the lowest values as representing the best fit. There is no rule of thumb for AIC, BIC, and ECVI, the values depend on actual dataset and the model (Van de Schoot et al., 2012). Generally, literature evidenced that a difference of 10 is taken as strong evidence that the model with the smaller BIC-value fits better than the other model (Raftery, 1995). Lower AIC/BIC value indicate a better trade-off between model fit and model complexity (Brown, 2006; Schumacker & Lomax, 2004), while the Expected Cross Validation Index (ECVI) was used as a single sample estimate of cross-validation to assess how well the different models would generalize to other samples (Hoekstra, Bartels, Cath, & Boomsma, 2008).

Gender comparisons: as a measure of discriminant validity, independent T-test comparisons were conducted in order to compare gender trends with regards to levels of personality dimensions investigated by the PAI. Gender differences were analyzed to ensure that gender influence was not unduly large, since the PAI scales are measures of clinical- not demographical- differences. T-test comparisons, with Welch-Satterthwaite correction to adjust for degrees of freedom, were conducted in order to compare gender trends with regards to levels of personality dimensions investigated by the PAI. Due to the fact that p-values are heavily influenced by sample size, Cohen's *d* indices were also used, as measure of effect sizes. Cohen (1988) defined effect sizes as small when d=.2, medium when d=.5, and large when d=.8.

Comparison with normative data: basing on Italian norms, scores from the present sample were converted in T-scores, and then compared to those of normative iItalian data for the overall population (Zennaro et al., *in preparation*). This comparison was carried out in order to investigate if young adults of the present sample showed scores deviations, compared to the overall italian population or, conversely, if, they showed scores in line with normative Italian data, and then they could be considered as representative of the Italian population.

Data analyses were conducted using statistical softwares as SPSS 21 (biblio) and LISREL 8.8 (Jöreskog & Sörbom, 2007).

Results

1) PAI psychometric properties

Descriptive Statistics: The 344 items of the PAI were examined for their distributional characteristics, in terms of skewness, and kurtosis statistics.-Since positive skewness and kurtosis emerged over the range of –1.00 and +1.00 for the 40% of items, they emerged as not satisfying assumptions of normality. Items were positively skewed, with coefficients from .07 to 5.46, while for kurtosis the range went from -.61 to 32.81.

Reliability:

Internal consistency of the main PAI scales was assessed through means of Cronbach's alpha, considering a 95% confidence interval (95% CI) for the overall sample (table 1). In line with the PAI professional manual, Cronbach's alpha was also calculated separatedly, for genders and occupation (students versus non students), and reported in the Appendix 1 (tables a and b). The mean reliability for PAI scales in the overall sample was α= .76. Internal consistencies for the subscales of PAI were satisfactory, with alpha values generally well above .60 (Donnellan, 2006). Internal reliability estimates for considered scales (reported in bold in the table) in the overall sample ranged from .72 (Dominance) to .87 (Anxiety), indicating acceptable to good reliability across all subscales (George and Mallery, 2003). Other scales revealed lower scores, and one of them was lower than .60 (α=.56 Drug scale), but they were not specifically considered in the present work.

The internal consistency of the INC and INF scales was not examined because the items do not share a similar content, and neither are measures of constructs, but of error. The internal consistency reliabilities of the validity scales were consistent with those originally reported by Morey.

Table 1. Chronbach's alfa, 95% CI, and inter item correlatino coefficient for the overall sample

PAI SCALES	Overall sample *N*=1180		Overall sample (N=1000; Morey, 2007)[b]	
	α(95%CI)	M interit corr	α	M interit corr
Clinical				
Somatic	**.78 (.76-.80)**	**.15**	**.89**	**.92**
Anxiety	**.87 (.85-.88)**	**.24**	**.90**	**94**
Anx Relat	**.75 (.73-.77)**	**.12**	**.76**	**86**
Depress	**.86 (.84-.87)**	**.20**	**.87**	**93**
Mania	.79 (.77-.81)	.14	.82	82
Paran	.82 (.81-.84)	.17	.85	89
Schizoph	.80 (.78-.81)	.14	.81	89
Border	.83 (.82-.85)	.17	.87	91
Antisoc	.76 (.74-.78)	.13	.84	86
Alcohol	.69 (.66-.71)	.19	.84	93
Drug	.60 (.57-.64)	.16	.74	89
Treatment				
Aggress Attit	**.83 (.81-.84)**	**.22**	**.85**	**90**
Suicid Ideat	.85 (.83-.86)	.39	.85	93
Stress	.56 (.53-.60)	.15	.76	79
Nonsupp	.70 (.67-.73)	.24	.72	80
Treat Rej	.70 (.67-.73)	.22	.76	80
Interpersonal				
Domin	**.72 (.69-.74)**	**.18**	**.78**	**82**
Warm	**.77 (.75-.79)**	**.22**	**.79**	**83**

CFA 1) CFA on the overall 18 scales of the PAI:

Following literature (Hoelzle & Meyer, 2009; Morey, 2007), CFA conducted considering all the 18 scales of the PAI, was run starting from 18 scale scores. Different factor structures models underlying the 18 scales were tested and compared.

A confirmatory factor analysis was carried out in order to empirically verify which factor structure among theoretical and empirical models reported in literature (Hoelzle & Meyer, 2009; Morey, 2007) fitted data better. Four first-order correlated factor models were tested: (1) Model 1, a monofactorial model that simply considered factors as included in a general 'Total' score; (2) Model 2, representing the three factor model theorethically conceptualized by Morey (2007), that regards the differentiation between, respectively, Clinical, Treatment, and Interpersonal scales; (3) Model 3, that reproduced the four-factor – Symptoms, Impulsivity, Egocentricity, Social detachment- structure emerged

in previous EFA studies and also reported in the PAI Professional Manual (Morey, 2007); (d) Model 4, that reproduced the three factor - General distress symptomatology (SOM, ANX, ARD, DEP , PAR, SCZ, BOR, SUI, STR, NON, RXR,WRM), Antisocial practices (ANT,ALC,DRG), and Dominance-mania (MAN, ANT, AGG, DOM)- reported in previous literature (Hoelzle & Meyer, 2009).

CFA analysis on PAI scale scores, that were previously normalized and transformed in T-scores, were run by means of robust ML estimation. Table 2 shows values of goodness-of-fit indices of the four models. Theoretical Model 2 that hypothesize 3 factors of Clinical, Treatment, and Interpersonal conceptual dimensions as underlying the 18 PAI scales showed non acceptable goodness of fit indices. Overall, the other models showed acceptable fit indices. In particular, according to parsimony indices, Model 3 showed the best fit, providing support to the empirical model revealed through means of EFA by Morey (2007). Following Model 3, the 18 personality dimensions emerged as underlyed by 4 correlated factors of: (1) subjective distress and affective disruption, that is associated with a genereal severity of symptomatology and impairment in functioning, particularly with respect to acute clinical syndromes. This factor showed positive loadings on Anxiety, Depression, Anxiety related disorders, Schizophrenia, Borderline features, Somatization, Paranoia, Suicidal ideation, Stress, and Treatment rejection, (2) behavioral acting out and impulsivity, that is associated with distress in regards to others, and showed positive loadings on Antisocial features, Alcohol problems, Drug problems, (3) egocentricity, exploitation, and hostility, that showed association with behaviors of narcissism and positive loadings on Mania, Dominance, Antisocial features, and Aggression, (4) social detachment and a touchiness and sensitivity in social relationships, with, on one hand, positive loadings on Warmth, and, on the other hand, negative loadings on Nonsupport, Paranoia, Schizophrenia.

Loadings in Model 3 were all higher than .40 and statistically significant ($p < .05$), with the exception of Paranoia scale that showed low loading in the first factor of Subjective distress, and also for the factor of Egocentricity, that showed low loadings for all its scales. Figure 1 shows estimated factor loadings of CFA Model 3.

Table 2. CFA1: Comparison among fit indexes of the 18 scales of the PAI Model 1, Model 2, Model 3, Model 4

Fit indexes	**Model 1 1 total**	**Model 2 3 factors (clin, treat, interp; Morey, 2007)**	**Model 3 4 factors (EFA: symptoms, impuls, egocent, social detach; Morey, 2007)**	**Model 4 3 factors (symptom, antisoc, domin; Hoelzle & Meyer, 2009)**	**Good fit**	**Acceptable fit**
Df	135	132	126	131		
Chi-Square	1163.62	2653.71	815.24	900.20	$0 \leq \chi^2 \leq 2df$	$2df < \chi^2 \leq 3df$
RMSEA	.080	.13	.068	.071	$0 \leq RMSEA \leq .05$	$05 < RMSEA \leq .08$
90%CI RMSEA	.078 ; .097	.120 ; .130	.064 ; .073	.066 ; .075	close to RMSEA left boundary CI = .00	close to RMSEA
CFI	.89	.69	.93	.92	$.97 \leq CFI \leq 1.00$	$.95 \leq CFI < .97$
NFI	.88	.68	.91	.90	$.95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$
NNFI	.88	.65	.91	.90	$.97 \leq NNFI \leq 1.00$	$.95 \leq NNFI < .97$
GFI	.90	.80	.93	.92	$.95 \leq GFI \leq 1.00$	$.90 \leq GFI < .95$
SRMR	.053	.160	.048	.049	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
BIC	1418,26	2929,57	1133,54	1183,13	Smaller than BIC for comparison model	
AIC	1235.62	2731.71	905.24	908.20	Smaller than AIC for comparison model	
ECVI	1.05	2.32	.77	.83	Smaller than ECVI for comparison model	
		Model 1 vs 2	**Model 1 vs 3**	**Model 1 vs 4**		
	$\Delta\chi 2$ (Δdf) (p)	$1490,09_{(3)}$ (p<.001)	$348,22_{(9)}$ (p<.001)	$263,42_{(9)}$ (p<.001)		

***N*= 1180, method Robust ML**

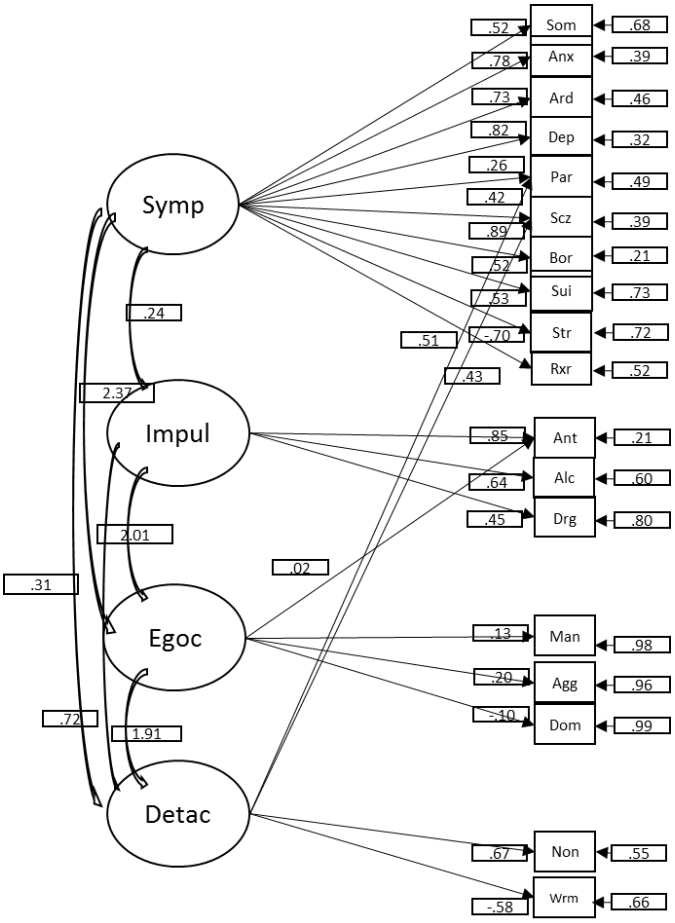

Figure 1. CFA 1, Model 3: Factor structure for the overall 18 scales of the PAI (Morey, 2007)

The same factor structure was also tested in a separate analysis, but, in this second case, the CFA was run starting from item scores. Because of software limitations in calculating the asymptotic covariance matrix due to large number of data to be analyzed, the robust ML (RML) method was used. Also if RML was supported in literature as producing estimates and standard errors that are equally good compared to RULS (Yang-Wallentin, Jöreskog, & Luo, 2010), it is sometimes considered as less appropriate then Robust ULS (Morata-Ramírez & Holgado-Tello, 2012; Rhemtulla, Brosseau-Liard, & Savalei, 2012). A further issue is that, when starting from items, the number of variables to be analysed increases, insomuch as large numbers of participants (also 10 cases per variable) need to be recluted in order to satisfy assumptions about the relation between number of subjects for each parameter (Westland, 2010). For this reason, results about RML are not reported in the present work. Finally, it is possible to hypothesize that difficulties related to the large number of participants to be recruited and powerful softwares that were needed to analyze these large number of items were the reason why previous studyes (Morey, 2007; Hoelzle & Meyer, 2009) started from scale scores instead of starting from items.

CFA 2) CFA on 11 PAI clinical scales:

In a second step, CFA was conducted with a specific focus on the 11 Clinical scales of the PAI, starting from normalized and T-transformed scale scores. Several theoretically and empirically based first-order correlated factor structures models (Hoelzle & Meyer, 2009; Morey, 2007), were tested and compared: (1) Model 1, a monofactorial model that considered factors as included in a 'Total' clinical score; (2) Model 2, representing the three factor model theorethically hypothesized by Morey (2007), that represents the differentiation between, respectively, neurotic, psychotic, behavioral, scales (Morey, 2007); (3) Model 3, that reproduced the two-factor – distress, acting- structure emerged in previous studies (Morey, 2007; Hoelzle & Meyer, 2009).

ML is the most common method of estimation within CFA which assumes that the observed variables are continuous and normally distributed (e.g., Bollen, 1989; flora & curran, 2004) and also provides asymptotically unbiased, consistent parameter estimates (Bollen, 1989; Finch, West, & MacKinnon, 1997; Muthén & Kaplan, 1985, 1992; West, Finch, & Curran, 1995).

Similarly to CFA1, since data were normalized, CFA was tested by means of robust ML estimation, basing on both the polychoric correlation matrix and the asymptotic covariance matrix. However, since few outliers emerged, the robust ML method as method of parameter estimations, that was based on covariance and asymptotic correlations matrix (Batista & Coenders, 2000), and Satorra-Bentler Scaled Chi-square (Satorra & Bentler, 1994) were considered as more suitable, also since they showed to produce estimates and standard errors that are equally good compared to RULS (Yang-Wallentin, Jöreskog, & Luo, 2010).

Overall, goodness-of-fit indices of the three models (Table 3) were acceptable. Parsimony indices supported Model 2 as representing the best fit to data, highlighting the best suitability for the theoretical model conceptualized by Morey (2007), in which the 11 clinical dimensions are underlyed by 3 correlated factors of: (1) neurotic, that includes SOM, ANX, ARD, DEP, (2) psychotic, that includes PAR, MAN, SCZ, (3) behavior disorder, that includes BOR, ANT, ALC, DRG.

Figure 2 shows estimated factor loadings of CFA Model 2. Excepted for the two factors of, Psychoticism, that showed small factor loadings for Drug problems and for Alcohol scales, and the factor of Acting that reported small loadings for the scale of Mania, in Model 2 were all higher than .40 and statistically significant ($p < .05$).

Table 3. CFA 2: Comparison among fit indexes of Model 1, Model 2, Model 3 for the 11 clinical scales of the PAI

Fit indexes	**Model 1 1 total clinical score**	**Model 2 3 factors (nevr, acting, psych; Morey, 2007)**	**Model 3 2 factors (distress, impulsivity; Morey, 2007; Hoelzle & Meyer, 2009)**	**Good fit**	**Acceptable fit**
df	44	41	43		
Chi-Square	329.04	260.94	300.59	$0 \leq \chi^2 \leq 2df$	$2df < \chi^2 \leq 3df$
RMSEA	.074	.067	.071	$0 \leq$ RMSEA $\leq .05$	$.05 <$ RMSEA $\leq .08$
90%CI RMSEA	.067; .082	.060; .075	.064; .079	close to RMSEA left boundary CI = .00	close to RMSEA
CFI	.92	.94	.93	$.97 \leq CFI \leq 1.00$	$.95 \leq$ CFI $< .97$
NFI	.91	.93	.92	$.95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$
NNFI	.90	.92	.91	$.97 \leq NNFI \leq 1.00$	$.95 \leq NNFI < .97$
GFI	.95	.96	.96	$.95 \leq$ GFI ≤ 1.00	$.90 \leq GFI < .95$
SRMR	.046	.041	.042	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
BIC	484.65	437.77	463.28	Smaller than BIC for comparison model	
AIC	373.04	310.94	346.59	Smaller than AIC for comparison model	
ECVI	.32	.26	.29	Smaller than ECVI for comparison model	
		Model 1 vs 2	Model 1 vs 3		
	$\Delta\chi 2$ (Δdf) (p)	68.1(3) (p<.001)	28.45(1) (p<.001)		

***N*= 1180 metodo Robust ML**

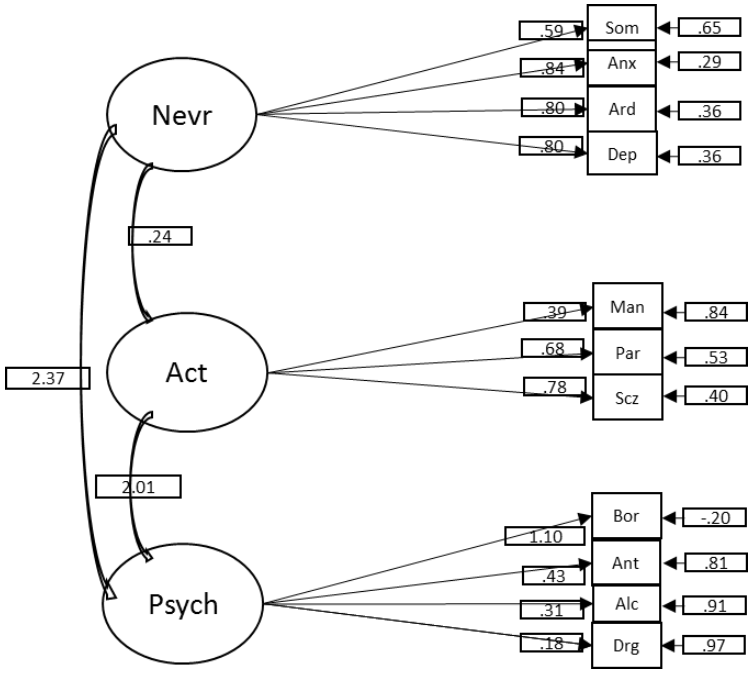

Figure 2. CFA 2, Model 2: factor structure of the 11 Clinical scales of the PAI

The same factor structure was also tested in a separate analysis. In this second case, the CFA was run starting from item scores, but, similarly to what already happened for CFA 1, because of software limitations in calculating asymptotic covariance matrix due to large number of data to be analyzed, the robust ML (RML) method was used. Given above mentioned difficulties with data analysis, results about RML are not reported in the present work. Like for CFA on the overall PAI questionnaire, it is possible to hypothesize that, also when addressing CFA for clinical scales, large number of participants to be recruited and powerful softwares needed to analyze large number of data were among the reason why previous studyes (Morey, 2007; Hoelzle & Meyer, 2009) started from scale scores instead of starting from items.

CFA 3) CFA on single scales*:*

As a third step, CFA, separatedly for the 18 scales of the PAI, was carried out. PAI items presented certain degree of skewness and kurtosis, therefore supporting the use of methods robust to non normality of data distribution (RULS). In the following pages, only results about considered scales of, respectively, Somatization, Anxiety, Depression, Warmth, Dominance, and Aggression attitudes, are presented. Results about CFA for the other scales of the PAI are reported in the Appendix 2.

In the following pages, figures show estimated factor loadings of CFA for each scale, in the overall sample. Generally, for each scale, all item loadings were in the expected direction, statistically significant and close, or higher than, .40.

For each scale, good-fitting models were also established separately in each subgroup of interest, namely, men, women, psychology students, and non psychology students. Then, metric invariance across genders and across occupation (psychology students vs non psychology students), was tested and supported for all scales, both across genders and across occupation.

SOM

Goodness of fit of the SOM scale second order factor model was good, with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of items 163 and 292, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed no statistically significant differences, also reporting similar fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .74 to .85. The correlations with the second-order factors also were high, ranging from .84 to .90.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men (33-83, lower loadings for item 192), women (35-82, lower loadings

for item 163 and 292), psychology students (31-82, lower loadings for item 163 and 292), and non psychology students (.32-.85, lower loadings for item 163 and 292), considered separatedly. Next, total metric invariance, as regards factor loadings and error variances, was tested across, respectively, genders and occupation. Since total metric invariance (MI model) showed non statistically significant differences as well as similar fit indices, compared to the model of configural invariance (CI model), it was considered as equally suitable, compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40, both for gender (.34-.78) and for occupation (.35-.78), with the exception of lower loadings for item 292.

Figure 3 som shows estimated factor loadings of CFA for Somatization scale, in the overall sample.

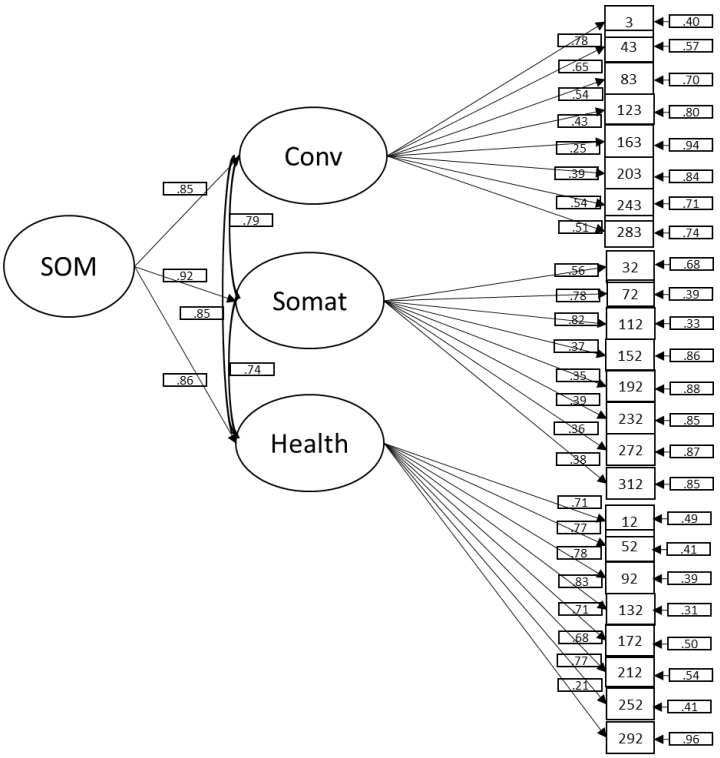

Figure 3. Factor structure of the Somatization scale. Parameter values are those revealed in the overall sample (N=308) (Note. C=Somatic Conversion; S=Somatization; H=Health Concerns)

Table 4a. Goodness of fit index categories of the SOM scale for the overall sample

Fit indexes	First order	Second order
x^2/df	893.48/249	894.21/246
RMSEA	.047	.047
CFI	.98	.98
NNFI	.98	.98
GFI	.94	.94
SRMR	.085	.085
90%CI RMSEA	.044-.050	.044-.051
p (RMSEA)	.94	.91
BIC	1254,14	1276,16
AIC	995.48	1002.21
ECVI	.84	.85
		Model 1 vs 2

$\Delta\chi 2$ (Δdf)	.73(3)
(p)	(p.866)

Table 4b. Test of measurement invariance of the *SOM scales* across genders (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	p
Men	459.47	246				.049	.98	.98	.93	.1	.042;.056	.58
Women	655.57	246				.046	.98	.98	.93	.092	.042;.050	.096
CI configural invariance	1116.94	486				.047	.98	.97	.93	.10	.043; .051	.92
MI factor loadings	1202.99	519	86.05	33	.000	.047	.98	.97	.91	.110	.044; .051	.90
MI factor loadings and error variance	1567.35	543	45.41	57	.000	.057	.96	.96	.88	.130	.053;.060	<.001

Table 4c. Test of measurement invariance of the *SOM scales* for students and non students (second order)

	X^2	Df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	667.55/246					.05	.98	.98	.94	.093	.045-.054	.52
No psico	469.51/246					.043	.98	.98	.92	.1	.037-.049	.97
CI configural invariance	1126.58	486				.047	.98	.98	.92	.1	.044 ; .051	.89
MI factor loadings	1138.22	519	1.58	21	.999	.045	.98	.98	.91	.100	.041 ; .049	.99
MI factor loadings and error variance	1199.42	543	72.84	57	.077	.045	.98	.98	.91	.100	.042 ; .049	.99

ANX

Goodness of fit of the ANX scale second order factor model was good, with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed lower comparison fit indices (BIC, AIC, and ECVI), and also similar fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .95 to .99. The correlations with the second-order factors also were high, ranging from .92 to .92. Figure 4 shows estimated factor loadings of CFA for Anxiety scale, in the overall sample.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men (30-83, lower loadings for item 225), women (32-82, lower loadings for item 225, 273, 313), psychology students (38-76, lower loadings for item 225, 273, 313), and non psychology students (33-71, lower loadings for item 185, 225, 313), considered separatedly. Next, total metric invariance, that is invariance of factor loadings and error variances was tested, across, respectively, genders and occupation. Since total metric invariance (MI model) showed similar fit indices, compared to the model of configural invariance (CI model), it was considered as equally suitable compared to the latter. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40, both for gender (.31-.72) and occupation (.32-.82) with the exception of lower loadings for items 225, 273, 313.

*

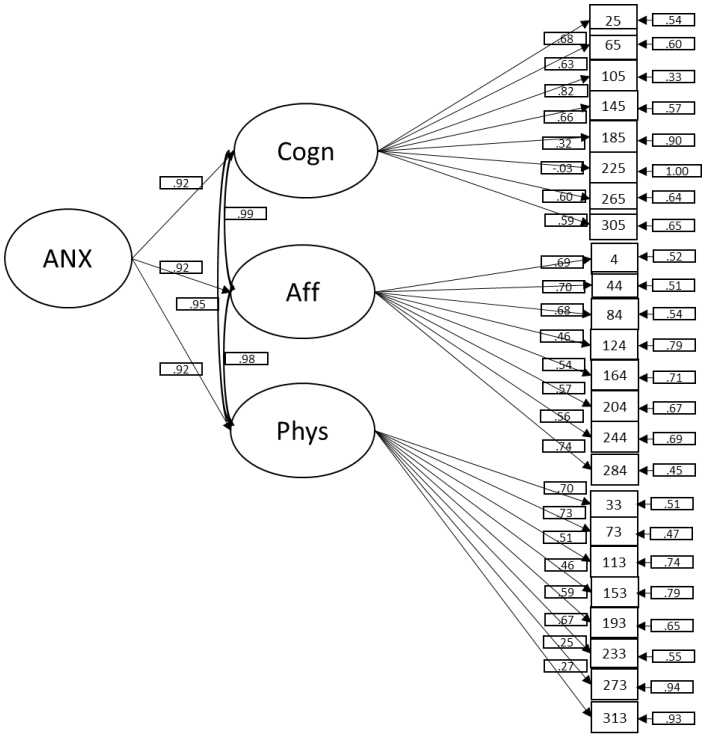

Figure 4. Factor structure of the Anxiety scale. Parameter values are those revealed in the overall sample (N=308) (Note: Cogn=Cognitive; Aff= Affective; Phys= Physiological)

Table 5a. Goodness of fit index categories of the ANX scale for the overall sample and separated by gender and occupation

Fit indexes	First order	Second order
x^2/df	1580.19/249	1537.01/246
RMSEA	.067	.067
CFI	.97	.97
NNFI	.96	.96
GFI	.97	.97
SRMR	.062	.062
90%CI	.064 ; .071	.064 ; .070
RMSEA		
p (RMSEA)	0	0
BIC	1940,93	1918,97
AIC	1682.19	1645.01
ECVI	1.43	1.40
		Model 1 vs 2
$\Delta\chi 2$ (Δdf)		$43.18_{(3)}$
(p)		(p<.001)

Table 5b. Test of measurement invariance of the *ANX scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	559.42/	246				.059	.97	.96	.96	.074	.053 ; .066	.009
Women	1233.19/	246				.07	.96	.96	.97	.066	.066 ; .074	0
CI configural invariance	1708.72	486				.065	.97	.96	.96	.074	.062 ; .069	.065
MI LX	1789.09	519	27.5	33	.737	.064	.97	.96	.94	.086	.061 ; .068	0
MI LX e TD	1796.52	543	87.8	57	.005	.063	.97	.97	.94	.086	.059 ; .066	0

Table 5c. Test of measurement invariance of the *ANX scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	1135.56/246					.072	.97	.96	.97	.065	.068 ; .077	0
No psico	728.45/246					.063	.96	.96	.96	.071	.058 ; .069	0
CI configural invariance	1827.76	486				.068	.97	.97	.96	.071	.065 ; .072	0
MI factor loadings	1885.00	519	57.24	33	.006	.067	.97	.97	.94	.087	.064 ; .070	0
MI factor loadings and error variance	1908.01	543	8.25	57	.023	.065	.97	.97	.94	.087	.062 ; .069	.065

ARD

Goodness of fit of the ARD scale second order factor model was good, with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed no statistically significant differences, also reporting similar fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .21 to .63. The correlations with the second-order factors were high, ranging from .72 to .83. Figure 5 shows estimated factor loadings of CFA for Anxiety related disorders scale, in the overall sample.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men (32-78, lower loadings for item 205, 125, 266, 306), women (32-84, lower loadings for item 225, 226, 266), psychology students (30-86, lower loadings for item 205), and non psychology students (33-86, lower loadings for item 205, 226, 266, 306), considered separatedly. Next, total metric invariance, that is invariance in factor loadings, and error variances was tested, across, respectively, genders and occupation. Since total metric invariance (MI model) showed non statistically significant differences as well as similar fit indices, compared to the model of configural invariance (CI model), it was considered as equally suitable compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40 both for gender (.35-.84) and occupation (.36-.85), with the exception of lower loadings for items 205, 226, 266, 306.

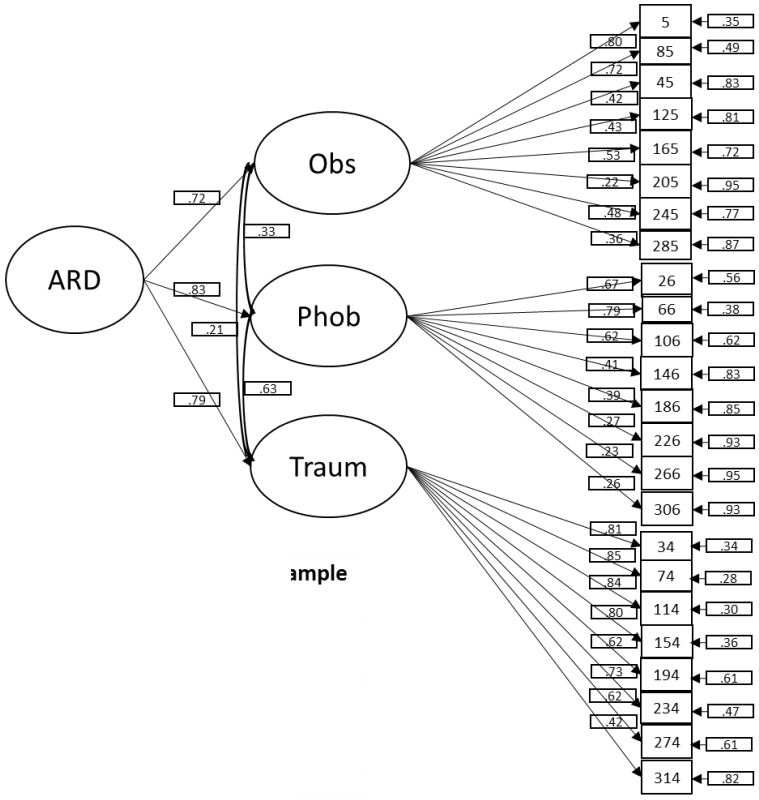

Figure 5. Factor structure of the Anxiety related disorders scale. Parameter values are those revealed in the overall sample (N=308) (Note: Obs=Obsessive compulsive; Phob=Phobias;Traum=Traumatic stress)

Table 6a. Goodness of fit index categories of the ARD scale for the overall sample

Fit indexes	First order	Second order
x^2/df	863.30/249	861.07/246
RMSEA	.046	.046
CFI	.97	.97
NNFI	.97	.97
GFI	.94	.94
SRMR	.078	078
90%CI RMSEA	0.042 ; 0.049	.043 ; .049
p (RMSEA)	.98	.97
BIC	1224,04	1243,03
AIC	965.30	969.07
ECVI	.82	.82
		Model 1 vs 2
$\Delta\chi 2$ (Δdf) (p)		$2.23_{(3)}$ (p=.526)

Table 6b. Test of measurement invariance of the *ARD scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	493.26/246					.053	.98	.97	.95	.086	.046 ; .060	.24
Women	769.44/24					.051	.98	.97	.96	.07	.047 ; .055	.34

	6											
CI configural invariance	1104.01	486				.046	.97	.96	.91	.091	.043 ; .050	.95
MI LX	1149.14	519	45.13	33	.078	.045	.97	.97	.90	.096	.042 ; .049	.98
MI factor loadings and error variance	1157.42	543	53.41	57	.611	.044	.97	.97	.90	.096	.040 ; .047	1

Table 6c. Test of measurement invariance of the *ARD scales* for students and non students (second order)

	X^2	f	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	614.22/246					.047	.97	.97	.93	.082	.042 ; .051	.89
No psico	494/246					.045	.97	.96	.92	.086	.040 ; .051	.90
CI configural invariance	1089.52	86				.046	.97	.97	.92	.086	.042 ; .050	.97
MI factor loadings	1167.75	19	78.23	33	.000	.046	.97	.97	.91	.091	.043 ; .050	.97
MI factor loadings and error variance	1176.41	43	86.89	57	.007	.045	.97	.97	.91	.091	.041 ; .048	1

DEP

Goodness of fit of the DEP scale second order factor model was good, with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed lower comparison fit indices, and similar descriptive fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .69 to .89. The correlations with the second-order factors were high, ranging from .84 to 88. Figure 6 shows estimated factor loadings of CFA for Depression scale, in the overall sample.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men (32-80), women (38-73 lower loadings for item 235 and 315), psychology students (30-79), and non psychology students (41-69 lower loadings for item 267, 235 and 315), considered separatedly. Next, total metric invariance, that is invariance as regards factor loadings and error variances, was tested across, respectively, genders and occupation. Since total metric invariance (MI model) showed non statistically significant differences as well as similar fit indices, compared to the model of configural invariance (CI model), it was considered as more suitable compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40 both for gender (.38-.74) and occupation (.38-.78), with the exception of lower loadings for items 235, 315.

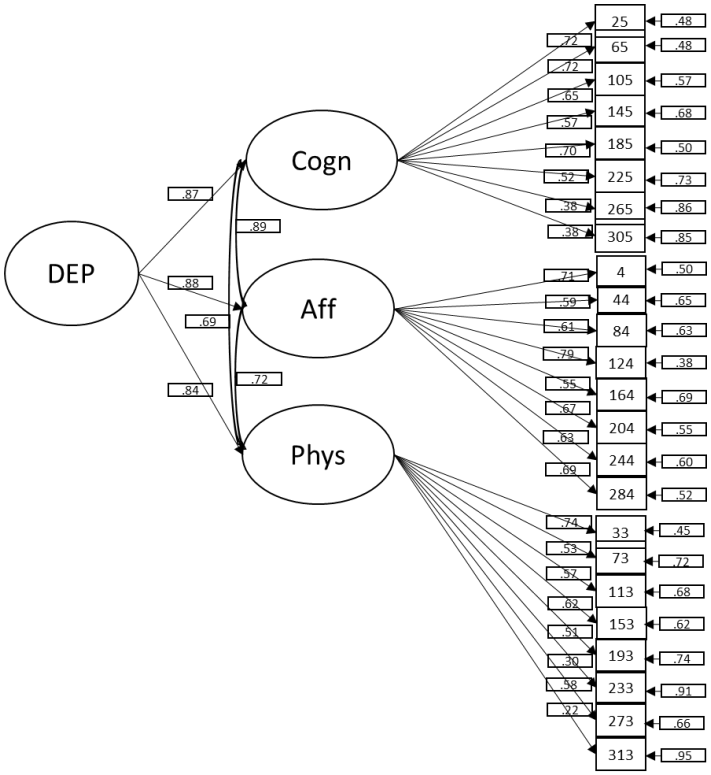

Figure 6. Factor structure of the Depression scale. Parameter values are those revealed in the overall sample (N=308) (Note: Cogn=Cognitive; Aff= Affective; Phys=Physiological)

Table 7a. Goodness of fit index categories of the DEP scale

Fit indexes	First order	Second order
x^2/df	1045.28/249	1030.58/246
RMSEA	.052	.052
CFI	.98	.98
NNFI	.98	.97
GFI	.97	.96
SRMR	.068	.068
90%CI RMSEA	.049 ; 0.055	.049 ; .055
p (RMSEA)	.14	.15
BIC	1406,02	1412,54
AIC	1147.28	1138.58
ECVI	.97	.97
		Model 1 vs 2
Δχ2 (Δdf) (p)		1490,09(3) (p<.001)

Table 7b. Test of measurement invariance of the *DEP scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	493.26/246					.053	.98	.97	.95	.086	.046 ; .060	.24
Women	769.44/246					.051	.97	.97	.96	.07	.047 ; .055	.34
CI configural invariance	1251.68	486				.052	.98	.97	.95	.086	.048 ; .055	.21

MI factor loadings	1346.32	519	94.64	33	<.00 1	.052	.97	.97	.94	.095	.049 ; .055	.1 6
MI factor loadings and error variance	1348.01	543	96.33	57	.001	.050	.97	.97	.94	.095	.047 ; .054	.4 6

Table 7c. Test of measurement invariance of the *DEP scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	844.23/246					.059	.97	.97	.96	.075	.055 ; .064	.001
No psico	502.8/246					.046	.98	.97	.95	.077	.040 ; .052	.85
CI configural invariance	1316.31	486				.054	.98	.98	.95	.077	.050 ; .057	.035
MI factor loadings	1356.67	519	4.36	33	.177	.052	.98	.98	.92	.092	.049 ; .056	.13
MI factor loadings and error variance	1397.5	543	81.19	57	.019	.052	.98	.98	.92	.092	.048 ; .055	.2

AGG

Goodness of fit of the AGG scale second order factor model was good, with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed slightly lower comparison fit indices, and similar descriptive fit indices, compared to the first-order Model. The inter-factor correlation between latent variables ranged from .71 to .88. The correlations with the second-order factors were also high, ranging from .88 to .93. Figure 7 shows estimated factor loadings of CFA for Aggression scale, in the overall sample.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men (.34-.78), women (.34-.79), psychology students (.39-.82), and non psychology students (.35-.76), considered separatedly. Next, total metric invariance, that is invariance of factor loadings, and error variances was tested, across, respectively, genders and occupation. Since total metric invariance (MI model) showed non statistically significant differences as well as similar fit indices, compared to the model of configural invariance (CI model), it was considered as equally suitable compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40 both for gender (.41-.79) and occupation (.40-.79).

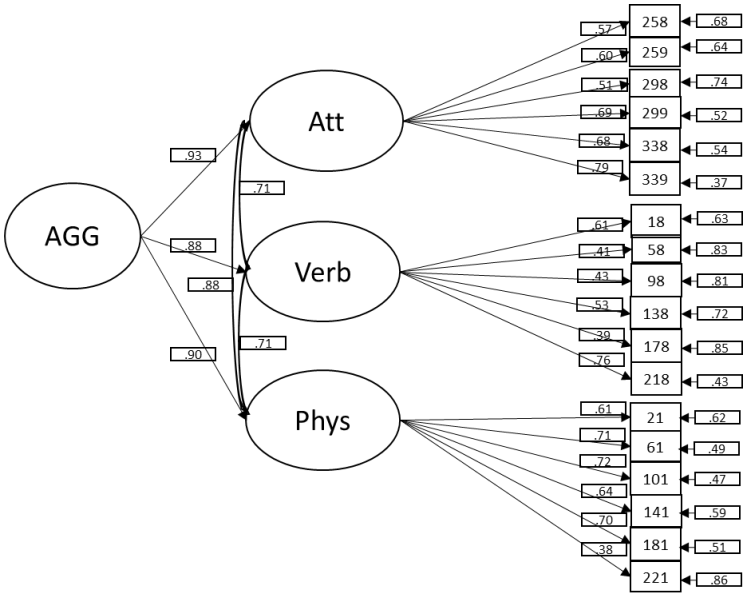

Figure 7. Factor structure of the Aggression attitude scale. Parameter values are those revealed in the overall sample (N=308)

Note. Att= Attitudes; V= Verbal aggression; P= Physical aggression

Table 8a. Goodness of fit index categories of the AGG scale for the overall sample

Fit indexes	First order	Second order
x^2/df	522.81/132	503.92/129
RMSEA	.05	.05
CFI	.98	.98
NNFI	.98	.98
GFI	.98	.98
SRMR	.06	.06
90%CI RMSEA	.046 ; 0.055	.045 ; .054
p (RMSEA)	.47	.54
BIC	1711,12	1713,45
AIC	600.81	587.92
ECVI	.51	.50
		Model 1 vs 2
$\Delta\chi 2$ (Δdf)		$18.89_{(3)}$
(p)		(p<.001)

Table. Test of measurement invariance of the *AGG scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	234.86/	129				.048	.98	.98	.97	.068	.038 ; .057	.64
Women	357.7/	129				.047	.98	.98	.98	.061	.041 ; .052	.83
CI configural invariance	576.81	252				.047	.98	.98	.97	.068	.042 ; .052	.85
MI factor loadings	629.35	279	24.08	15	.064	.046	.98	.98	.97	.079	.041 ; .051	.9
MI factor loadings and error variance	643.4	297	66.59	45	.020	.044	.98	.98	.96	.079	.040 ; .049	.97

Table. Test of measurement invariance of the *AGG scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	378.03/	129				.053	.98	.98	.97	.064	.047 ; .059	.21
No psico	282.18	129				.053	.98	.97	.97	.067	.042 ; .057	.54

CI configural invariance	662.75	252				.053	.98	.98	.97	.067	.048 ; .058	.19
MI LX	699.69	279	36.94	27	.096	.051	.98	.98	.96	.076	.046 ; .055	.41
MI factor loadings and error variance	701.4	297	38.65	45	.736	.048	.98	.98	.96	.076	.043 ; .053	.75

WRM

Goodness of fit of the WRM scale firts order factor model was good (χ 2SB= 634.05, p ≅ 0.001, df = 54, RMSEA = .095; 90% C.I. for RMSEA = .089 - .10, SRMR = .084, NNFI = .91, CFI = .93), with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed lower comparison fit indices, and similar descriptive fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .69 to .89. Figure 8 shows estimated factor loadings of CFA for WRM scale, in the overall sample.

Metric invariance:

First-order CFAs on WRM scale were conducted also for men (.30-.82), women (31-81), psychology students (31-82), and non psychology students (31-80), considered separatedly. Next, total metric invariance, that is invariance as regards factor loadings and error variances, across, respectively, genders and occupation, was tested. Since total metric invariance (MI model) showed slightly better fit indices, compared to the model of configural invariance (CI model), it was considered as equally suitable compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40, both for gender (.36-.81) and for occupation (.35-.81), with the exception of lower loadings for item 332.

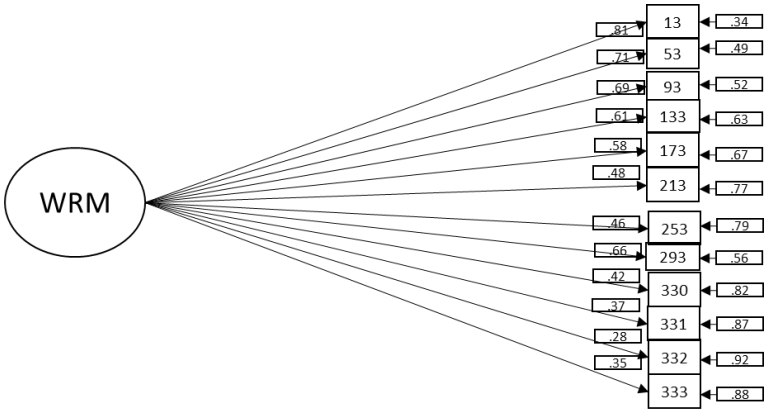

Figure 8. Factor structure of the Warmth scale. Parameter values are those revealed in the overall sample (N=308)

Table 9a. Test of measurement invariance of the *WRM scale* across genders

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	268.97	54				.1	.92	.9	.95	.094	.082 ; .11	0
Women	379.48	54				.096	.92	.91	.95	.087	.088 ; .10	0
CI configural invariance	593.87	108				.097	.93	.92	.95	.087	.090 ; .10	0
MI factor loadings	747.43	120	153.56	12	.000	.094	.93	.92	.95	.088	.088 ; .10	0
MI factor loadings and error variance	749.91	132	156.04	24	.000	.089	.93	.93	.95	.088	.083 ; .095	0

Table 9b. Test of measurement invariance of the *WRM scales* for students and non students

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	319.19	54				.092	.94	.93	.96	.082	.083 ; .10	0
No psico	324.33	54				.1	.91	.88	.91	.094	(.091 ; .11	0

CI configural invariance	693.92	108				.096	.94	.92	.94	.095	.089 ; .10	0
MI factor loadings	731.13	120	37.21	12	.000	.093	.93	.93	.93	.100	.087 ; .100	0
MI factor loadings and error variance	749.91	132	55.99	24	.000	.089	.93	.93	.95	.088	.089 ; .10	0

DOM

Goodness of fit of the DOM scale firts order factor model was good (χ 2SB= 742.5, p ≅ 0.001, df = 54, RMSEA = .10; 90% C.I. for RMSEA = .097 - .11, SRMR = .088, NNFI = .83, CFI = .86), with all factor loadings that were statistically significant and the majority of them close to .40, with the exception of few items, that revealed some slightly lower loadings. Second order Model was considered as more suitable since it showed lower comparison fit indices, and similar descriptive fit indices, compared to the first-order Model. The inter-factor correlation between the latent variables ranged from .69 to .89. Parameter values are those revealed in the overall sample (N=308)

Figure 9 shows estimated factor loadings of CFA for DOM scale, in the overall sample.

Metric invariance:

First-order CFAs were conducted also for men (.38-.63, lower loadings for item 16, 257, 297, 337), women (.32-.59, lower loadings for item 16), psychology students (.36-.68, lower loadings for item 16, 297), and non psychology students (.33-.67, lower loadings for item 16, 337), considered separatedly. Next, total metric invariance, that is invariance as regards factor loadings and error variances, across, respectively, genders and occupation, was tested. Since total metric invariance (MI model) showed slightly better fit indices, compared to the model of configural invariance (CI model), it was considered as more suitable compared to CI model. Also in the case of metric invariance, all factor loadings that were statistically significant and the majority of them close to .40, both for gender (.32-.67) and for occupation (.33-.67), with the exception of lower loadings for item 16, 297.

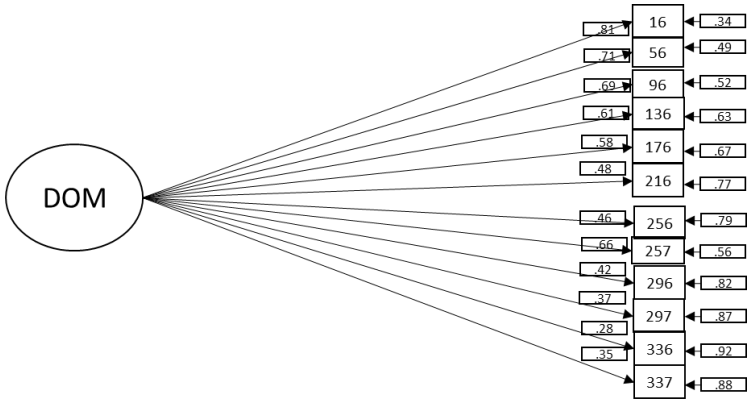

Figure 9. Factor structure of the Dominance scale. Parameter values are those revealed in the overall sample (N=308)

Table 10a. Test of measurement invariance of the *DOM scales* across genders

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	245.78	54				.097	.84	.81	.93	.095	.084 ; .11	0
Women	546.4	54				.11	.87	.85	.94	.089	.098 ; .11	0
CI configural invariance	788.26	108				.10	.82	.79	.94	.089	.097 ; .11	0
MI factor loadings	812.06	120	23.8	12	.022	.099	.82	.80	.94	.091	.093 ; .11	0
MI factor loadings and error variance	836.37	132	48.11	24	.002	.095	.82	.82	.94	.091	.089 ; .10	0

Table 10b. Test of measurement invariance of the *DOM scales* for students and non students

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	449.01	54				.1	.88	.85	.95	.086	.094 ; .11	0
No psico	35.22	54				.11	.84	.8	.92	.098	.096 ; .12	0
CI	799.48	108				.10	.88	.85	.92	.098	.098 ; .11	0

configural invariance											
MI factor loadings	842.62	120	43.14	12	<.001	.10	.87	.86	.92	.100	.095 ; .11	0
MI factor loadings and error variance	868.04	132	68.56	24	<.001	.097	.87	.87	.92	.100	.091 ; .10	0

*Gender comparisons***:** Means and standard deviations for PAI scales are presented in table 11. Overall, results are in line with literature, supporting discriminant validity. In general, differences between men and women in scale means were less than four T-score units –a difference equivalent to the standard error of measurement for these scales (Morey, 2007). Exceptions occur for ANT, and ALC scales, with higher scores for men, in line with the Professional manual of the PAI (Morey, 2007). Conversely, higher scores emerged for women in levels of Anxiety and Anxiety related disorders scales, compared to men. This differences is not surprising, considering previous studies about gender differences in anxiety (McLean, Asnaani, Litz, & Hofmann, 2011).

Table 11. T test and Cohen's d for gender comparisons in internalizing symptoms, interpersonal skills and aggression (PAI)

PAI	**Total**		**Men**		**Women**		**t**	**df**	**p**	**Cohen's d**
	M	DS	M	DS	M	DS				
SOM	**50.00**	**10.00**	**47.90**	**10.75**	**50.93**	**9.51**	**-4.61**	**619.02**	**<.001**	**-.37**
ANX	**50.00**	**10.00**	**46.07**	**9.63**	**51.73**	**9.67**	**-9.27**	**1178.00**	**<.001**	**-.54**
ANXDISORD	**50.00**	**10.00**	**46.63**	**9.80**	**51.48**	**9.73**	**-7.87**	**1178.00**	**<.001**	**-.46**
DEP	**50.00**	**10.00**	**48.30**	**10.00**	**50.75**	**9.91**	**-3.90**	**1178.00**	**<.001**	**-.23**
MAN	50.00	10.00	51.02	10.38	49.55	9.80	2.33	1178.00	.020	.14
PAR	50.00	10.00	49.58	10.24	50.18	9.89	-0.95	1178.00	.343	-.05
SCZ	50.00	10.00	50.08	10.00	49.97	10.00	0.17	1178.00	.863	.01
BOR	50.00	10.00	48.15	10.12	50.81	9.85	-4.24	1178.00	<.001	-.25
ANT	50.00	10.00	54.27	9.96	48.12	9.43	10.16	1178.00	<.001	.59
ALC	50.00	10.00	53.33	10.10	48.53	9.60	7.79	1178.00	<.001	.45
DRG	50.00	10.01	52.12	10.92	49.06	9.43	4.62	606.76	<.001	.27
SUI	50.00	10.00	50.40	10.03	49.82	9.99	0.92	1178.00	.360	.05
STR	50.00	10.00	49.98	10.35	50.01	9.85	-0.04	1178.00	.972	-.01
NON	50.00	10.00	51.55	9.88	49.31	9.98	3.56	1178.00	<.001	.21
RXR	50.00	10.00	51.89	10.18	49.17	9.81	4.34	1178.00	<.001	.25
AGG	**50.00**	**10.00**	**50.01**	**10.00**	**49.99**	**10.01**	**0.03**	**1178.00**	**.976**	**.09**
DOM	**50.00**	**10.00**	**51.28**	**9.48**	**49.43**	**10.18**	**2.94**	**1178.00**	**.003**	**.11**
WRM	**50.00**	**10.00**	**50.07**	**10.77**	**49.97**	**9.66**	**0.16**	**625.80**	**.872**	**.09**

Note. In bold, scales of interest for study 2

Comparison with normative data: Raw scores were transformed in T-scores, basing on Italian normative data (Zennaro et al., in preparation). Participants with Validity scale scores that were higher than suggested cutoff (72 for INC, 74 for INF, 83 for NIM, and 67 for PIM; Morey, 2007) were excluded from the sample.

First of all, in order to see if participants' **mean scores** from the present study were **homogeneous with respect to the overall normative Italian sample,** T-scores were interpreted with **Mean= 50** and **SD= 10.** As it can be seen for all scales, participants revealed mean and standard deviation scores that were in the normative range of the italian adaptation sample.

On the other hand, some differences emerged if comparisons between the present sample and normative Italian sample were conducted adopting Morey's rules of thumb (2007), which suggests to interpret as significant T-score differences higher than **4 T-score units**. Participants scored, respectively, higher in Borderline features and lower in Treatment rejection, compared to normative Italian sample. Men scored higher than normative sample in Antisocial features and in Alcohol problems, while women scored higher in Anxiety and in Borderline features, and lower in Treatment rejection. Similarly to women, Psychology students scored higher in Borderline features, and lower in Treatment rejection. Anyway, it is possible that higher scores for Psychology students, compared to Non psychology students, were attributable to gender composition of the sample, that is, Psychology students with higher scores were represented for the most part by women. Most importantly, despite non-omogeneity between genders, only slight differences (4 T-score units) emerged between women and men in levels of Anxiety and Anxiety related disorders symptoms.

Besides mean scores, a**t individual level**, following Morey's (2007) rules of thumb, only few participants scored higher than the **clinical cutoff of 70** (that is, higher than the 96° percentile), in the scales of Depression, Mania, Paranoia, Schizophrenia, Antisocial, Alcohol, Drug, Aggression, Suicidal, Non-support, Warmth, and Dominance, therefore indicating a degree of problems and clinical symptoms, in levels of symptoms assessed by the above-mentioned scales. Since the percentage of subjects reporting high scores was small (lower than 2%) the sample was considered to be representative of the general population, therefore these participants were not excluded from the present study.

Table 12. Descriptive statistics for PAI scale T-scores, for the overall sample and separated for groups (men, women, psychology students, and non psychology students) (N=1180)

	Overall sample (N=1180)				Men (n=361)				Women (n=819)				Psico (n=691)				No psico (n=489)			
	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS
SOM	**37**	**86 (32)**	**49.33**	**8.56**	**37**	**86(11)**	**47.98**	**8.81**	**37**	**86(21)**	**49.92**	**8.39**	**37**	**86(24)**	**50.16**	**8.83**	**37**	**81(8)**	**48.15**	**8.04**
ANX	**32**	**90 (68)**	**52.57**	**10.50**	**32**	**88(7)**	**48.65**	**9.16**	**34**	**90 (61)**	**54.30**	**10.59**	**33**	**90(45)**	**53.33**	**10.74**	**32**	**89(23)**	**51.50**	**10.06**
ARD	**28**	**88(48)**	**51.40**	**10.04**	**28**	**79(3)**	**48.10**	**9.22**	**30**	**88(45)**	**52.85**	**10.05**	**30**	**88(27)**	**51.49**	**10.22**	**28**	**83(21)**	**51.27**	**9.80**
DEP	**35**	**96(47)**	**49.86**	**9.53**	**35**	**96(11)**	**48.34**	**9.10**	**35**	**89(36)**	**50.53**	**9.64**	**35**	**96(34)**	**50.37**	**9.90**	**35**	**87(13)**	**49.13**	**8.94**
MAN	28	81(8)	52.40	9.69	29	81(5)	53.42	10	28	79(3)	51.95	9.52	28	81(4)	51.64	9.40	29	79(4)	53.47	9.99
PAR	27	94(51)	51.26	10.07	31	94(12)	50.91	10.29	27	89(39)	51.42	9.97	27	89(26)	50.52	9.95	31	94(25)	52.31	10.14
SCZ	34	91(43)	50.48	9.93	34	91(9)	50.56	9.78	34	90(34)	50.45	10	34	90 (23)	49.94	9.77	34	91(20)	51.24	10.10
BOR	33	85(102)	54.63	10.16	34	85(17)	52.79	9.89	33	85(85)	55.44	10.18	34	85(67)	55.22	10.13	33	85(35)	53.79	10.14
ANT	33	102(81)	52.42	10.57	34	102(53)	57.09	11.82	33	100(28)	50.36	9.26	33	100(42)	51.74	10.28	33	102(39)	53.38	10.90
ALC	41	119(82)	51.29	10.90	41	119(45)	54.78	12.75	41	111(37)	49.76	9.60	41	119(57)	51.65	11.19	41	117(25)	50.78	10.48
DRG	42	117(45)	49.73	9.68	42	117(25)	51.90	11.51	42	112(20)	48.77	8.59	42	117(31)	50.43	10.15	42	94(14)	48.73	8.90
AGG	**33**	**94(86)**	**51.77**	**10.73**	**33**	**94(27)**	**51.75**	**10.76**	**33**	**94(59)**	**51.78**	**10.72**	**33**	**94 (50)**	**51.70**	**10.84**	**33**	**87(36)**	**51.86**	**10.59**
SUI	44	122(85)	51.59	11.28	44	111(31)	51.89	11.08	44	122(54)	51.46	11.37	44	122(63)	52.69	12.44	44	109(22)	50.04	9.18
STR	35	85(53)	52.18	9.39	35	80(22)	52.26	9.78	35	85(31)	52.15	9.23	35	85(28)	51.92	9.35	35	83(25)	52.56	9.45
NON	36	97(56)	50.78	10.41	36	97(20)	52.33	10.74	36	91(36)	50.10	10.20	36	97(42)	51.38	10.69	36	91(14)	49.94	9.97
RXR	18	69	44.97	9.81	20	69	46.80	9.96	18	69	44.16	9.65	18	69	43.65	9.43	20	69	46.83	10.06
DOM	**18**	**76(10)**	**49.36**	**10.21**	**18**	**74(3)**	**50.68**	**9.68**	**20**	**76(7)**	**48.78**	**10.38**	**18**	**74(4)**	**48.99**	**10.11**	**22**	**76(6)**	**49.89**	**10.33**
WRM	**13**	**71(5)**	**49.04**	**10.12**	**13**	**71(4)**	**48.99**	**10.72**	**17**	**71(1)**	**49.06**	**9.84**	**13**	**71(1)**	**48.69**	**10.15**	**15**	**71(4)**	**49.54**	**10.06**

*in brakets. Number of participants with scores >clinical cutoff (Morey. 2007)

Conclusions study 1

Study 1, in line with previous international literature, revealed good characteristics of reliability and construct validity for the PAI in a large population of Italian young adults. Therefore, good psychometric properties as emerged in this Study 1 supported PAI suitability for the assessment of features of psychosocial functioning and adjustment in individuals from this developmental stage. The present study supported PAI factor structure emerged from previous Explorative Factor Analyses (Morey, 1991, 2007), highlighting that the PAI provides an assessment of broad dimensions of individual and interpersonal personality functioning, like (1) subjective distress and affective disruption, that is associated with a genereal severity of symptomatology and impairment in functioning, (2) behavioral acting out and impulsivity, that is associated with distress in regards to others, (3) egocentricity, exploitation, and hostility, (4) social detachment and sensitivity in social relationships. Moreover, looking more specifically to clinical variables, the present study provided support to the theoretical model conceptualized by Morey (2007), where the 11 clinical dimensions emerged to be underlyed by 3 correlated factors of: (1) neurotic, that includes internalizing symptoms of Somatization, Anxiety, Anxiety Related Disorders, and Depression, (2) psychotic, that includes Paranoia, Mania, Schizophrenia, (3) behavior disorder, that includes Borderline features, Antisocial, Alcohol, Drug.

The result about clinical scales emerges as particularly interesting, since it provides further support to the selection, in Study 2, of scales that are part of the neurotic dimension of the PAI and to their use as indicators of internalizing functioning.

Moreover, besides broad personality dimensions, CFA on single scales also showed that the PAI provides a differentiated assessment among a wide range of relevant complex clinical constructs for clinical personality assessment, thus allowing to cover the full breadth of complex clinical constructs, with some personality dimensions that contain further conceptually derived subscales. This result supports the suitability of PAI scales in providing a useful measure to assess several features of individual and interpersonal functioning in Italian young adults.

Since comorbidity is also due to the fact that disorders are characterized by the same trait facets (Lynam & Widiger, 2001, p. 409), the PAI, with its 22 nonoverlapping scales, represents an attempt to contrast the criticized phenomena of, respectively, comorbidity between PD diagnoses (Krueger & Markon, 2006; Morey, 2005; Morey, Berghuis, Bender et al., 2011; Widiger, Simonsen, Sirovatka, & Regier, 2006), lack of a compelling boundary with normal personality functioning, and inadequate coverage of maladaptive personality functioning (Livesley, 2003; Widiger, 2005; Widiger & Mullins-Sweatt, 2005).

PAI focus on normal personality is also coherent with personality trait theory approach, that was developed as a descriptive system for normal personality (Morey, Skodol, & Oldham, 2014). Its d**imensional** perspective, conceiving traits as **continua** (Fleeson, 2001), that is in line with trait bipolarity conceptualized by some authors (Feist & Feist, 2009), allows to assess personality along a continuum of normality and psychopathology. The PAI, similarly to other dimensional measures of personality psychopathology, that are based on representations of self and interpersonal relations, could hold significant clinical utility, particularly in (a) identifying the presence and extent of personality psychopathology, (b) planning treatment, and (d) studying treatment course and outcome (bender, morey, & skodol, 2011).

More in general, the PAI, differently from many existing personality assessment instruments that have been developed for the study of general personality functioning (De Raad & Perugini, 2002) also allows to address maladaptive personality traits included within the FFM.

Trait models of PD generally conceptualize personality pathology as reflecting the extremes of personality trait dimensions (e.g., O'Connor & Dyce 2001, Widiger & Costa 1994). Although trait constructs themselves may span a range from normal and adaptive to abnormal andmaladaptive, measures of personality traits often do not span this entire range. Differently from other Trait models of PD (e.g., O'Connor & Dyce 2001, Widiger & Costa 1994) and measures (e.g., Samuel et al. 2010; Krueger & Markon, 2013), the PAI has the advantage of spanning the entire range of trait constructs, thus covering a range from normal and adaptive to abnormal and maladaptive traits. Advantages of the trait theory approach at the base of the PAI include the provision of a precise yet comprehensive description of both normal and abnormal personality functioning, the avoidance of the many limitations and problems inherent to the categorical diagnostic system, and the incorporation of information about general personality functioning into our understanding of personality disorders.

Personality researchers argue that for personality assessment instruments limiting the assessment to major traits is not exhaustive. Critics also underlined that factors were chosen only because of statistical reasons (Eysenck, 1992). Many studies have confirmed that in predicting actual behavior the more numerous lower-level traits are more effective, supporting a more detailed approach to personality assessment, beyond the measurement of major personality traits

(e.g., Mershon & Gorsuch, 1988; Paunonon & Ashton, 2001). As also suggested by many studies, beyond the measurement of major personality traits, the more numerous lower-level traits investigated by the PAI, support a more effective and detailed approach to personality assessment, as also regards prediction of actual behavior (e.g., Mershon & Gorsuch, 1988; Paunonon & Ashton, 2001).

One limitation related to the PAI is that it involves difficulties that are related to the large number of data, that is number of items, to be analyzed in studies about construct validity. In fact, large numbers of participants need to be recruited in order to satisfy assumptions about the relation between number of subjects for each parameter (Westland, 2010). Moreover, powerful softwares are needed in order to analyze, both, large numbers of items, but also large numbers of participants that need to be recluted. Maybe, these were also some of the reasons why previous studies (Morey, 2007; Hoelzle & Meyer, 2009) started from scale scores, instead of starting from items.

2) **Study 2:** ***Investigation of protective and risk factors for internalizing symptoms***

In *Study 2*, particular attention was focused on outlining a developmental framework for discussion of both *protective factors*, in terms of interpersonal skills and secure attachment, and *risk factors*, represented by dimensions of internalizing symptoms, aggression, insecure attachment, and Separation anxiety, that were hypothesized to be central for features of psychosocial adjustment and functioning.

Several are both risk and protective factors, and they can be found across multiple contexts or domains, going from specific individual features and up to interpersonal factors (O'Connell, Boat, & Warner, 2009; Stone, Becker, Huber, & Catalano, 2012; Thompson and Berenbaum 2011). Starting from this assumption, since in the present work the attention was focused on aspects of significant interpersonal relationships, a limited number of specifical variables, that were hypothesized to be possible indexes of protective or risk factors, were analysed.

Aims

Comparison with normative samples and descriptive analyses: In order to investigate levels of protective and risk factors for participants in the present study, and also because instruments in the present study were not frequently used in Italian studies, data were compared to those of **normative samples** of similar age, taken from the literature.

1. ***Association among protective and risk factors*****:** The role of possible protective (secure attachment and relational skills) and risk factors (insecure attachment, aggression, and Separation anxiety) for internalizing symptoms was investigated (Roberts et al., 2007; Roberts & Mroczek, 2008; Roberts et al., 2006; Roberts & Wood, 2006). Several studies highlighted influence that attachment styles, interpersonal skills, emotions, and separation anxiety separatedly exert on general functioning.

Attachment styles**:** secure attachment style was considered predictor of psychological adjustment (Mikulincer & Shaver, 2003; shemmings, 2006), and emotion regulation and anger (Bookwala & Zdaniuk, 1998; Levy, Clarkin, Yeomans, et al., 2006; Mikulincer, 1998; Mikulincer, Shaver, & Pereg, 2003; Bookwala & Zdaniuk, 1998; Levy, Clarkin, Yeomans, et al., 2006; Mikulincer, 1998; Mikulincer, Shaver, & Pereg, 2003), while insecure attachment styles were considered as predictive of maladaptive psychological adjustment, in terms of interpersonal skills (Doron & Kyrios, 2005; Lorenzini & Fonagy, 2009; Ivarsson, Granqvist, Gillberg, & Broberg, 2010; Mikulincer & Shaver, 2003; Noftle & Shaver, 2006; Perry, DiTommaso, Robinson, & Doiron, 2007; Shaver & Mikulincer, 2002), Separation anxiety (Brumariu & Kerns, 2010; Manicavasagar, Silove, Marnane, Wagner ,2009), and internalizing symptoms in college students (Klein & Pierce, 2009; Love et al., 2009; Yamawaki et al., 2011).

Interpersonal skills*:* Since literature indicated positive and trusting interpersonal relationships as predictors of psychological well-being in young adults (Perez, 2012; Wei, Russell, & Zakalik, 2005), interpersonal skills were hypothesized to be predictive of psychological adjustment in terms of internalizing symptoms.

Separation anxiety: since Separation anxiety in adulthood was associated with depression and mood instability (e.g., Perugi, Akiskal, 2002; Perugi, Toni, Maremmani, Tusini, Ramacciotti, Madia, Fornaro M, Akiskal, 2012; Pini, Abelli, Mauri, et al., 2005; Pini, Abelli, Shear, et al., 2010; Toni et al., 2008; Wijeratne, Manicavasagar , 2003), it was hypothesized to be predictive of internalizing symptoms.

Aggressive attitude: since literature found emotion regulation and anger to be related to depression, they were hypothesized to be predictors of internalizing symptoms (Levy, Clarkin, Yeomans, et al., 2006)

Few studies analyzed all these variables in a unique complex model of association. Therefore, the aim of the present study was to fill this gap of literature analysing simultaneously the role of the above mentioned variables and ther influence on psychosocial adjustment, in terms of internalizing symptoms. In order to address the overall contribution to psychological health that is exerted respectively by attachment, interpersonal skills, emotion regulation, and Separation anxiety, Structural Equation Modeling (SEM) approach was applied to: (a) test whether attachment contributes to better psychological health by, on one hand, increasing interpersonal skills and emotional control, and, on the other hand, reducing levels of Separation anxiety, (b) examine whether the hypothesized relationships showed similar trends across gender. In particular, both romantic and adult attachment styles, as representative of self-other perception (Fino, Iliceto, Sabatello, Petrucci, & Candilera, 2014), were hypothesized to be predictive of, respectively, emotion regulation, interpersonal skills, and internalizing symptoms. Moreover, **interpersonal skills**, Separation anxiety, and aggressive attitudes, were hypothesized to exert a mediating role between, on one hand, attachment, and, on the other hand, psychological adjustment in terms of internalizing symptoms.

Method

Participants:

For what pertains to the investigation of gender trends and the association between variables of interest, a sample of 344 participants was recluted. Participants were asked to answer to a battery comprising several instruments assessing internalizing symptoms, Separation anxiety, and attachment styles. Twentyfive participants (8.12%) were excluded from the study due to high scores on validity scales, and 30 participants (10.26%) were excluded for missing item responses in other questionnaires of the battery (missing: >10% items left unanswered). After applying these criteria, 308 individuals remained in this study, which represents 92.22% of the initial sample. This is a higher percentage of valid profiles than has been found in previous studies that have used similar criteria (e.g., Tasca et al., 2002, 82.0%; Karlin et al., 2005, 84.7%; Schinka, 1995, 85.8%). Of these participants, 227 (73.7%) were women, and the mean age was 22.26 years (*SD* = 2.84). Participants were all Italians, recluted from Italian Universities, respectively sited in the north (79.2%), and in the south or isles (20.8%).

Participants were from 18 to 29 years old. Exclusion criteria included psychiatric hospitalization, and psychological treatment or testing within the past year. Questionnaires were filled in a voluntary and anonymous way. Questionnaires were administered at undergraduates enrolled at psychological courses in Universities that were dislocated in several Italian cities. Although information on ethnic origin was not collected from participants, participants were predominately White.

Comparison with normative samples: Since most questionnaires were not widely used in Italian studies, preliminary comparison with normative data was carried out. Overall, mean scores in the present study were in line with those reported in normative samples of young adults even if some exceptions emerged (see table 13).

As regards the PAI, scores from the present sample were trasformed in T-scores following overall Italian sample norms. Although, overall, scores were similar to those of Italian adults of different ages, young adults of the present sample revealed lower scores in Treatment rejection scale. Considering genders separatedly, men reported higher Mania and Antisocial features, while women reported higher Anxiety and Borderline features, compared to Italian normative scores.

Furthermore, scores reported by participants in study 2 showed no differences to those emerged in study 1. Therefore, the present study sample was considered as homogeneous and representative of the larger sample of study 1. In fact, following Morey's recommendations about interpretation of T score differences (>4 T score units; Morey, 2007), no differences emerged between scores of participants in study 2 and scores revealed by participants of study 1. Moreover, following Morey's (2007) suggestions about scores indicating symptoms of clinical significance, some participants, for the most part women, reported scores that were higher than expected (Scale score>70), namely for Somatization (n=6), Anxiety (n=25), Anxiety related disorders (n=11), Depression (n=10), Aggression (n=20), and Warmth scales (n=2).

Participants revealed scores in line with italian normative data for what pertains to Trait anxiety assessed by STAI-Y.

About the SCL90-R, scores were T-transformed following Italian norms, and resulted in line with normative Italian data. Just few participants reported scores higher than clinical cutoff (Sarno et al., 2011), indicating the experience of some distress related to psychological symptoms namely for Somatization (n=11), Obsession-compulsivity (n=9), Depression (n=16), Anxiety (n=8), Phobic anxiety (n=11).

As regards adult Separation anxiety (ASA), participants revealed higher scores compared to university students investigated by Dell'Osso et al. (2011).

Lower and higher scores respectively of secure and preoccupied adult attachment styles emerged at the RQ, compared to those emerged in studies addressing, respectively, the first-cathegorical (Stein et al., 2002) and the second-continuous (Žvelc, 2010) parts of the RQ. Young adults from the present sample showed also lower levels of romantic attachment avoidance, as compared to Sibley et al. (2005).

Table 13. Score comparison with normative data

Interpersonal skills and internalizing symptoms	**PAI**		Scores in line with italian normative data	(N=1051; Morey, 2007)
	SCL-90R		Scores in line with italian normative data	(Sarno et al., 2011)
	STAI-Y TRAIT		Scores in line with italian normative data (Men: t(992)=.13, p=.90, Cohen's d=.01; Women: t(1041)=1.88, p=.06, Cohen's d=.12)	(N=1279; Pedrabissi & Santinello, 1989)
Adult attachment	**RQ**	I part	(X^2(3)= 55,63, p<.001)	(N=115; Stein et al., 2002)
		II part	*Secure* (t(482)=4.05; p<.001; d Cohen=.37) *Fearful* (t(482)= 1.86; p<.06; Cohen's d =.17) *Preocc* (t(482)= 4.79; p<.001; Cohen's d =.44) *Avoid* (t(482)= 2.95; p.62; Cohen's d =.04)	(N=176; Žvelc, 2010)
Romantic attachment	ECR-R		Anx (t(606)=1.14; p=.25; d Cohen=.09)	(N=300, Sibley et al., 2005)
			Avoid (t(606)=9.74; p<.001; d Cohen=.79)	
Adult Separation anxiety	**ASA**		(t(356)=4.49; p<.001; d Cohen= .48)	(N=50; Dell'Osso, 2011)

Procedure

Higher scores of considered variables were used as indexes of, respectively:

(1) *protective factors*: (a) Warmth and Dominance scales of the PAI, that were used to assess interpersonal skills, (b) Secure dimension of RQ (style A) for adult attachment.

(2) *risk factors*:

1. *Internalizing symptoms*: (a) Somatization scale of the PAI and Somatization scale of the SCL-90R, (b) Anxiety and Anxiety related disorders scales of the PAI, STAI-trait from the STAI, and Obsessive compulsive, Anxiety, and Phobic anxiety scales from the SCL-90R, (c) Depression scale of the PAI and Depression scale of the SCL-90R;
2. *Aggressive attitudes*: concerning *aggression* as a measure of emotional mediation between attachment and internalysing symptoms, the aim was to investigate the role of the emotional component, apart from its verbal and physical expression. Therefore, since the Aggression attitude subscale of the PAI (AGG-A) was specifically intended as conducive to aggressive behavior (Morey, 2007), in the present study, this scale was chosen to assess general aggressive attitudes and tendencies;
3. *Attachment*: (a) Fearful-avoidant, Preoccupied, and Avoidant dimensions of RQ (respectively, styles B, C, D) for insecure adult attachment styles, and (b) Anxiety and Avoidance scales of ECR-R for insecure romantic attachment styles

Measures

Instruments in the present study were selected for their wide international diffusion and good psychometric properties.

Personality Assessment Inventory (PAI; Morey, 1991, 2007) (see Study 1 for PAI description)

In Study 2, goodness of fit and Cronbach's alfa of the PAI scales was between acceptable and good., and reported as follows (see the Appendix 4 for Cronbach's alfa in the overall sample and separated for gender):

1. Somatization: χ 2 SB = 481.12, p ≅ 0.001, df = 246, RMSEA = .056; 90% C.I. for RMSEA = 0.048 ; 0.063, SRMR = 0.11, NNFI = .97, CFI = .97. Cronbach's alfa =.76.

2. Anxiety: χ 2 SB = 657.72, p ≅ 0.001, df = 246, RMSEA = .074; 90% C.I. for RMSEA = 0.067 ; 0.081, SRMR = 0.11076 NNFI = .96, CFI = .96. Cronbach's alfa =.88.

3. Depression: χ 2 SB = 529.46, p ≅ 0.001, df = 246, RMSEA = .061; 90% C.I. for RMSEA = 0.054 ; 0.068, SRMR = 0.097 NNFI = .96, CFI = .96. Cronbach's alfa =.86.

4. Anxiety related disorders: χ 2 SB = 460.09, p ≅ 0.001, df = 246, RMSEA = .053; 90% C.I. for RMSEA = .046 ; 0.061, SRMR = 0.10 NNFI = .96, CFI = .96. Cronbach's alfa =.75.

5. Aggressive attitude: χ 2 SB = 235.69, p ≅ 0.001, df = 129, RMSEA = .052; 90% C.I. for RMSEA = .041 ; 0.062, SRMR = 0.073 NNFI = .98, CFI = .98. Cronbach's alfa =.83.

6. Warmth: χ 2 SB = 153.39, p ≅ 0.001, df = 54, RMSEA = .077; 90% C.I. for RMSEA = .063 ; 0.092, SRMR = 0.079 NNFI = .95, CFI = .95. Cronbach's alfa =.81.

7. Dominance: χ 2 SB = 239.52, p ≅ 0.001, df = 54, RMSEA = .11; 90% C.I. for RMSEA = .092 ; 0.12, SRMR = 0.095 NNFI = .88, CFI = .88. Cronbach's alfa =.76.

Symptom Checklist-90-R (SCL-90R, Derogatis, 1994; trad. It Sarno, Preti, Prunas & Madeddu, 2011) is a widely used 90 items 5-point Likert scale (from 0 = ''not at all'' to 4 = ''extremely'') selfreport measure to assess individuals' current level of psychosocial distress on 9 independent symptom dimensions (Arrindell & Ettema, 2003; Derogatis, Lipman, & Covi, 1973). Patients are asked to indicate the amount they were bothered by each of the distress symptoms during the preceding week.

The subject's responses are interpreted on the basis of nine primary symptom dimensions listed below:

• **Somatization (SOM):** reflects the discomfort resulting from the perception of bodily dysfunction and symptoms include focusing on the cardiovascular, gastrointestinal and respiratory symptoms in addition to the equivalent algic and somatic anxiety;

• **Obsessive-compulsive (OC):** includes symptoms that are commonly identified with the clinical syndrome that bears the same name; the items are investigating the presence of thoughts, impulses and actions subjectively experienced as irresistible and persistent and that they are ego-dystonic nature or unwanted;

• **Interpersonal Hypersensitivity (IS):** focuses on the feelings of inadequacy and inferiority, worthlessness, marked distress in interpersonal interactions, extreme hypersensitivity compared to the self and negative expectations regarding the interpersonal behaviors;

• **Depression (DEP):** Symptoms of this scale covering the clinical manifestations include depression and dysphoric affect, withdrawal of interest in life, lack of motivation and loss of vital energy, hopelessness, suicidal thoughts and other related cognitive and somatic depression ;

• **Anxiety (ANX):** Includes general signs of anxiety such as nervousness, tension, and tremors as well as panic attacks and feelings of dread, apprehension and fear;

• **Hostility (HOS):** reflects thoughts, feelings or actions characteristic of anger which covers all modes of expression and manifestation such as aggression, irritability and resentment;

• **Phobic Anxiety (PHOB):** refers to a persistent response of fear - for a specific person, a specific place, object or situation - which is recognized as irrational and disproportionate to the stimulus and leads to avoidance behaviors or leakage;

• **Paranoid ideation (PAR):** projective thinking, hostility, suspiciousness, grandiosity, self-reference, fear of loss of autonomy and delusions are conceived as primary expressions of this subscale;

• **Psychoticism (PSY):** includes items indicative of a lifestyle introverted, isolated, schizoid, as well as first-rank symptoms of schizophrenia, such as hallucinations and disturbances of thought control and is conceived as a continuum that ranges from a mild interpersonal alienation to frank psychosis.

In addition to the scores related to the specific symptom dimensions is also possible to obtain three global indices created primarily to provide greater flexibility in the overall assessment of the patient's psychopathology and have indicators of severity of symptoms and psychological distress. The function of each of these broad indices is to communicate through a single score, the intensity or depth of psychological distress of the subject. Since each index reflects a rather different aspect of the respondent's psychological distress (Derogatis et al., 1975), when used in an integrated manner, they allow you to have very useful data for the accurate assessment of the clinical picture.

They are:

• **Global Severity Index (GSI)** is the best overall index of the intensity or the current depth of the disorder. It combines information concerning the number of reported symptoms and the intensity of the perceived discomfort. The GSI should be used in most cases where it is required a single summary index;

• **Positive Symptom Total (PST)** is a measure of response style, and whether the respondent has accentuated or minimized their discomfort symptoms; that is, it reflects the average level of discomfort symptoms of, only that the subject is given and, as such, can be interpreted as an index of the intensity of symptoms;

• **Positive Symptom Distress Index (PSDI)** simply reflects the number of symptoms reported by the subject, regardless of the intensity of the discomfort associated with them. Can be interpreted as a measure of the variety / amplitude of the symptoms.

Derogatis recommended that a patient should be considered a "case" when scoring higher than the norm population on the Global Severity Index (GSI), or, alternatively, when the subscale cutoff is exceeded in scores on two (or more) subscales (Derogatis, 1983). Target symptom caseness was defined according to Derogatis criteria (ibid), that is, a score at or above a T-score of 65 according to Italian norms (Sarno, Preti, Prunas & Madeddu, 2011).

The tool differentiates itself from other self-administered questionnaires for the detection of psychological distress as measured both internalizing and externalizing symptoms, thus achieving almost entirely cover the spectrum of psychopathology. Other aspects that have fostered the spread of the instrument are the speed of compilation takes about 12-15 minutes of time).

In clinical practice, the SCL-90-R is used for assessing the level of general discomfort as well as for more complex profiles and specific showing that the particular configuration of psychological symptoms in non-clinical and clinical (psychiatric patients or medical general).

In Study 2, Cronbach's alfa of selected scales was good (somatization=.78; obsessive compulsive=.78; depression=.86; anxiety=.82; phobic anxiety =.56).

State-Trait Anxiety Inventory (STAI; Spielberger, 1983; trad. It. Pedrabissi & Santinello, 1996) is a brief self-report assessment designed to measure and differentiate between anxiety as a trait and a state. The State Anxiety Scale (S-Anxiety), asks how respondents feel "right now,", and the Trait Anxiety Scale (T-Anxiety) evaluates relatively stable aspects of "anxiety proneness and depression" including general states of calmness, confidence, and security, and in the tendency to perceive stressful situations as dangerous and threatening, responding to such situations with more intense and frequent elevations in state anxiety (Spielberger et al. 1970; Spielberger and Sydeman 1994). The STAI has 40 items, 20 items allocated to each of the S-Anxiety and T-Anxiety subscales. Responses for the S-Anxiety scale assess intensity of current feelings "at this moment": 1) not at all, 2) somewhat, 3) moderately so, and 4) very much so. Responses for the T-Anxiety scale assess frequency of feelings "in general": 1) almost never, 2) sometimes, 3) often, and 4) almost always. Internal consistency alpha coefficients and content validity (Spielberger, 1983).

Test retest reliabilities for the trait scale are high (0.73±0.86), as well as concurrent validity with other anxiety questionnaires (0.73±0.85) (Spielberger, 1983).

Form Y was developed in 1983, since it was said to have a more replicable factor structure and improved psychometric properties (Oei, Evans, & Crook, 1990).

Each subscale of the STAI form Y was constructed to include 10 items for which high ratings indicate high anxiety (anxiety-present: e.g., "I am tense", "I feel nervous and restless"), and 10 items written in a way opposite of what the scale is intended to measure (anxiety-absent: e.g., "I am calm", "I feel rested") (Spielberger et al. 1983).

Several authors have underlined the importance of having a reliable and valid measure of general anxiety that specifically targets the relatively unique symptoms associated with anxiety (Antony and Rowa 2005; Bufka et al. 2002; Gros et al. 2007). State-Trait Anxiety Inventory (STAI) is one of the most long-standing and commonly used clinical self-rating scale for measuring the severity of anxiety.

Some studies on the dimensionality of the STAI subscales provided empirical support for a **four-factor** model of the STAI (State Anxiety Present, State Anxiety Absent, Trait Anxiety Present, Trait Anxiety Absent) (Bernstein and Eveland 1982; Gauthier and Bouchard 1993; Shek 1988; Suzuki et al. 2000; Vagg et al. 1980). However, recent studies have proposed alternative models, based on the suspicion that "anxiety-absent" items could be associated with depression rather than anxiety. For example, Bieling et al. (1998) provided support for two independent specific factors of anxiety and depression (Bieling et al. 1998; Caci et al. 2003; Gros et al. 2007; Kohn et al. 2008). Generally, results supported the notion that the STAI-T assesses anxiety as well as depression and wellbeing (Balsamo et al, 2013). Therefore, Vigneau and Cormier (2008) supported the hypothesis that both the trait and the state anxiety subscales measure one substantive anxiety construct plus measurement artifacts due to negative– positive item polarization, rather than to distinct constructs, such as anxiety and depression or anxiety present and anxiety-absent. Bados et al. (2010) proposed and tested a bifactor model comprising two first-order specific factors ("Anxiety" and "Depression") and one first-order general factor ("Negative Affect") for the STAI-T.

The STAI has appeared in over 3,000 studies and has been translated into over 30 languages (Spielberger, 1989). The italian version wss cured by Pedrabissi e Santinello (1989) and has been administered to samples of working adults, high school students and military recruits.

In Study 2, goodness of fi t of the STAI-Y two correlated factor model was acceptable, χ 2 SB x2= 2801.56, p ≅ 0.001, df = .739. RMSEA = 0.095; 90% C.I. for RMSEA = 0.092 - 0.099, SRMR = 0.092, NNFI = .95, CFI = .95. Factor loadings were all statistically significant and ranged from 0.41 to .82. Cronbach's alfa was also good (α state=.93, trait=.92).

Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991): Bartholomew and Horowitz (1991) proposed a model that identifies four adult attachment styles, depending on the fact that individuals (1) considered or not themselves as the kind of people to whom others wish to provide help; (2) regarded their attachment figures as accessible and available to their requests for help. This model led to four categories of attachment: a) the secure style (positive model of both self and of the other), b) the preoccupied style (negative model of self and positive model of the other) and c) the avoidant style, the latter divided into c1) fearful-avoidant (negative model of self and negative model of the other) and c2) rejecting-avoidant (dismissive-avoidant, positive model of self and negative model of the other).

Bartholomew and Horowitz (1991), in building the RQ, have joined to form categorical with four mutually exclusive classifications. The prototype is the ideal representative of a certain category, which incorporates in itself the characteristics most commonly held by belonging to the same category. Is there an internal variability to the individual category, so that the members in it framed differ from one another on the basis the degree to which they correspond to the representative of the prototypical category same. Thus, the prototypical form is based on a dynamic concept of style attachment, which provides an internal variability to the individual style and that means the same style as mutable construct, which can be subject to change and adjustments along the arc of life of the individual and with respect to different relations.

The RQ (Bartholomew & Horowitz, 1991; Carli, 1995) is a self-report questionnaire that provides an assessment of the general individual orietation towards relationships, allowing an evaluation of adult attachment styles. RQ is widely used because of the rapidity of its administration (Busonera, San Martini, & Zavattini, 2014). Participants are first asked to select the paragraph that best describes their experiences in adult relationships choosing one among four Bartholomew's (1990) attachment prototypes: Secure, Preoccupied, Fearful-Avoidant, and Dismissing. At a later stage they have to rate how well each paragraph reflects their general style in intimate relationships, using a 7-point Likert-type scale (from 1=Not at all like me to 7= Very much like me). RQ showed good psychometric properties in terms of convergent validity (Mikulincer & Shaver, 2007).

Bartholomew and Horowitz (1991) have validated the RQ on two different samples of college students, the first consisting of 77 subjects (40 females, 37 males, age 18 - 22 years old), the second consisting of 69 subjects (36 females, 33 males, age 17-24 years). These studies have confirmed the existence of four types of adult attachment provided by the prototypical model (Bartholomew 1990).

For what concerns the **psychometric** characteristics of the RQ, Scharfe and Bartholomew (1994) found a moderate reliability of the instrument in terms of established time, with an interval of 8 months between test and retest (Agostoni, 2007).

Experiences in Close Relationships Scale-Revised (ECR-R; Fraley, Waller, & Brennan, 2000; trad. It Busonera , San Martini, & Zavattini, 2014) is a 36-item self-report on a 7-point Likert-type scale (from 1: Strongly disagree to 7: Strongly agree) questionnaire designed to assess attachment dimensions in multiple contexts. It aims to the classification of adult romantic attachment style, comprising two scales that assess attachment anxiety and avoidance (18 items for each scale). Participants are instructed to think about their overall experiences in romantic/love relationships, including both their previous and current relationship experiences, while completing the ECR-R.

ECR-R represents the attempt to accurately operationalize a dimensional perspective about of attachment-related anxiety, which reflects an individual's predisposition toward "anxiety and vigilance concerning rejection and abandonment," and attachment avoidance dimension, related to "discomfort with closeness and dependency or a reluctance to be intimate with others (Fraley & Shaver, 2000, pp. 142-143).

Scholars have thus conducted a survey that involved 1086 students (682 females and 403 males), aged between 16 and 50 years, enrolled in Psychology at the University of Austin, Texas. By integrating all the assessment scales of adult attachment in the literature until the mid-nineties, researchers have collected, on the whole, 482 items, designed to assess constructs related to attachment. After eliminating redundant information, 323 items remained were reanalyzed. The analysis allowed the identification of the 36 ECR-R, basing on their discrimination values items, 18 item for each of

the two dimensions considered, which showed high levels of internal consistency, with alpha of .91 for Anxiety and .94 for Avoidance.

The ECR-R showed good psychometric properties both in terms of reliability and validity (Ravitz, et al.,2010; Sibley & Liu, 2004 ; Sibley, Fischer, & Liu, 2005). This yielded a scale with increased measurement precision, as item discrimination values were more evenly distributed across the entire trait range.

Principal component analysis on the data from this survey showed the presence of two main factors. The stairs most representative of the factor named Anxiety were: a) concern (Feeney et al., 1994); b) jealousy / fear of abandonment (Brennan and Shaver, 1995); c) fear of rejection (Rothbard et al., 1993). While the stairs more representative of the factor Avoidance were: a) avoidance of intimacy (Rothbard et al., 1993); b) discomfort for the proximity (Feeney et al., 1994); c) tendency to rely on themselves rather than on others (West, Sheldon-Keller, 1994).

The ECR-R provided substantially more precise estimates of latent attachment across the entire trait range (Fraley et al., 2000). Its improved item parameters yielded markedly more stable test-retest estimates than those provided by the ECR and the Adult Attachment Questionnaire (AAQ) measures. Fraley et al. (2000) provided strong evidence supporting the increased measurement precision of the ECR-R, which also displays adequate internal reliability and factor structure (e.g., Sibley & Liu, 2004), convergent and discriminant validity (Sibley, Fischer & Liu, 2005). ECR-R anxiety and avoidance subscales displayed test-retest correlations in the low .90s during *3-week (Sibley,* Fischer,*& Liu, 2005) and* 6-week periods (Sibley & Liu, 2004).

The two dimensions of Anxiety and avoidance appeared to be conceptually equivalent to the horizontal and vertical axes of the classification of Bartholomew (1990, Bartholomew and Horowitz 1991; Griffin and Bartholomew 1994a, 1994b). In addition, a cluster analysis revealed 4 groups of subjects on the basis of scores in the two dimensions of anxiety and avoidance: secure individuals at the RQ reported low levels of both anxiety and avoidance for the ECR; the Fearful-avoidant (RQ) had high scores in both dimensions of the ECR; preoccupied in the (RQ) had high anxiety and low avoidance, and finally the dismissing / avoidant had high avoidance and low anxiety (Table 4.3) (Agostoni & Manzoni, 2007). The dimensional approach of ECR-R is shown to achieve higher accuracy in discriminating subjects with different attachment styles.

In Study 2, goodness of fi t of the ECR-R two correlated factor model was acceptable, χ 2SB= 1882.27, p ≅ 0.001, df = .593, RMSEA = 0.084; 90% C.I. for RMSEA = .080 - 0.088 , SRMR = 0.10, NNFI = .95, CFI = .95. Factor loadings were all statistically significant and ranged from 0.30 to .74. Cronbach's alfa was also good (α anxiety=.90, avoidance=.92).

Adult Separation Anxiety-27 (ASA-27; Manicavasagar, Silove, Wagner, Drobny, 2003; Manicavasagar, Silove, Franzc, Curtis, Franzc, & Wagner, 2000) provides 27-item which are rated on a 4- point frequency scale, ranging from 3 to 0 (respectively: 3="This happens very often" 2="This happens often" 1="This happens occasionally" and 0="This has never happened"). The items are summated to derive a total score, ranging from 0 to 81, for the assesment of core adult separation anxiety simptoms occurring after the age of 18 years, including, but not limited to, adult variants of DSM-IV criteria for Children Separation Anxiety Disorder [Manicavasagar V, Silove D, Wagner R, Drobny, 2003].

Scale items were constructed as adult equivalents of childhood separation anxiety disorder Diagnostic and Statistical Manual of Mental Disorders IV symptoms.

The measure has a coherent single factor structure that has been found to account for 45% of variance in separation anxiety symptoms. Sound psychometric properties for the ASA-27 have been demonstrated, such as high levels of internal consistency (Cronbach α = between .89 and **.**95), test-retest reliability at 3 weeks (r =.86), as well as concurrent validity with clinical assessments of adult SA (Manicavasagar, Silove, & Curtis, 1997; Manicavasagar V, Silove D, Curtis J, Wagner, 2000; Manicavasagar V, Silove D, Hadzi-Pavlovic, 1998;Manicavasagar, Silove, Wagner, Drobny, 2003; Silove et al., 2007). A cut-off score of 22 on the ASA-27 to assign subjects to the putative category of ASAD yielded a sensitivity of 81% and a specificity of 84% compared to diagnoses assigned by clinicians using the Adult Separation Anxiety Semi-structured Interview (Manicavasagar, Silove, Marnane, Wagner, 2005.

In Study 2, goodness of fi t of the ASA-27 monofactorial model was acceptable, χ 2SB= 999.61, p ≅ 0.001, df = .324, RMSEA = 0.084; 90% C.I. for RMSEA = .077-.088, SRMR = 0.097, NNFI = .94, CFI = .94. Factor loadings were all statistically significant and the majority of them ranged from .33 to .79, with the exception of items 26 and 27, that had the lowest factor loadings (respectively, .23 and .25). Cronbach's alfa was also good (α=.89).

Data analysis

1. **Descriptive analyses:** *Data transformation.*With regards to gender comparisons and association between variables of interest, data were analyzed, respectively, by means of t-test and Structural Equation Models. Both t-test and structural equation models provide assumptions about normal data distribution. For this reason, owing to positive skew in the distributions of the symptom count variables that is typical of a community sample, a normalizing (Blom) transformation was used, since it has also been shown to optimize model selection when analyzing psychiatric symptom count data (Beasley, Erickson, & Allison, 2009; Hicks, 2004; Hicks, Krueger, Iacono, McGue, & Patrick, 2004; van den Oord et al., 2000). The Blom transformation is available as an automated option in SPSS and it was applied to PAI, ECR-R, ASA, STAI-Y. After the Blom transformation, T-score conversion was carried out on these scale scores in order to make them directly interpretable, since they have a mean of 50 and a standard deviation of 10. Conversely, Blom transformation was not used with, respectively, SCL-90R, since SCL-90R already provided T-scores based on Italian norms (Sarno, Preti, Prunas & Madeddu, 2011). As regards RQ, since this instrument was constituted by items, no transformations were applied.

Descriptive statistics: after data transformation, descriptive statistics were carried out for data exploration, in order to investigate normality assumptions in mean scale scores, standard errors, skewness, and kurtosis. Normality was assessed by means of, both, graphic and significance test methods (Field, 2009; Altman & Bland, 1995; Ghasemi & Zahediasl, 2012), and reported in Appendix 3.

Reliability: In order to investigate internal consistency, Cronbach's alphas indices were assessed for each questionnaire.

Factor structure of used questionnaires: Data for each questionnaire (with the exception of the PAI, that was already discussed in Study 1) were submitted to confirmatory factor analysis (CFA), in order to investigate if factor structure for each questionnaire received support in the present sample, and reported above in the paragraph Measures.

2. ***Association among protective and risk factors*:**

Correlations between attachment, interpersonal skills, separation anxiety and internalizing symptoms were investigated in the overall sample (N=308), and also separatedly for women (n=227) and men (n=81), and they were evaluated in terms of effect sizes, basing on Cohen's rules of thumb (1988): r=.10 small, r=.30 moderate, r=.50 large.

Subsequently, *Structural Equation Modeling* (SEM) was employed in order to investigate association between variables of interest, by means of robust ML estimation. ML is the most common method of estimation in SEM which assumes that the observed variables are continuous and normally distributed (e.g., Bollen, 1989; flora & curran, 2004) and also provides asymptotically unbiased, consistent parameter estimates (Bollen, 1989; Finch, West, & MacKinnon, 1997; Muthén & Kaplan, 1985, 1992; West, Finch, & Curran, 1995). However, since **multivariate normality assumption** requirement in ML was not fulfilled for all variables in the model, since RQ and SCL90R showed some degree of positive skewness in data distribution (Bollen, 1989; Coenders & Saris, 1995; DiStefano, 2002), robust Maximum Likelihood (RML) method, basing on covariance and asymptotic correlations matrix for obtaining parameter estimations (Batista & Coenders, 2000) and Satorra-Bentler Scaled Chi-square (Satorra & Bentler, 1994) were considered as more suitable. RML received support in literature as producing estimates and standard errors that are equally good compared to RULS (Yang-Wallentin, Jöreskog, & Luo, 2010). Considered fit indices were: 1) the Root Mean Square Error of Approximation (RMSEA) and its 90% confidence interval (90 % CI); 3) the Normed Fit Index (NFI), 4) the NonNormed Fit Index (NNFI), 5) the Comparative Fit Index (CFI), 6) the Goodness of Fit Index (GFI), and 8) the Standardized Root Mean Square Residuals (SRMR), following rules of thumb suggested by Schermelleh–Engel, Moosbrugger & Müller (2003).

On the basis of the existing literature and consistently with the relevant theory, several relationship patterns were hypothesized in order to analyze relations between variables of interest. A measurement model was tested about the relations between a set of observed variables and the unobserved variables or constructs regarding internalyzing symptoms. Yet, the structural equation model permitted directional predictions among, respectively, a set of independent and a set of dependent variables, specifing the pattern of these relations, allowing for a direct test of the hypotheses of interest.

Four approaches were attempted, the first one including only predictors, and the others considering also mediating variables:

1) *Multiple multivariate regression model with latent variables (Model 1)*: the analysis regarded a model where all independent variables - Secure (RQA), Fearful-avoidant (RQB), and Preoccupied (RQC) attachment styles,

interpersonal skills of Dominanace and Warmth, Separation anxiety, and Aggression attitude - were set as predictors of the three indicators of internalizing symptoms –i.e., Somatization, Anxiety, and Depression

2) *Mediational models with single latent variables (Model 2a, Model 2b, Model 2c)*: in line with the hypotheses of the present work and with literature suggestions, a mediational approach was adopted hypothesizing, as predictors, Secure (RQA), Fearful-avoidant (RQB), and Preoccupied (RQC) attachment styles and, as mediator variables, interpersonal skills -Warmth and Dominance-, Separation anxiety, and Aggression attitude. Within this second approach, three separated models were firstly carried out. These three models differed in specific hypothesized outcome variables, with Model A, Model B, and Model C focusing, respectively, on Somatization, Anxiety, and Depression as outcome variables

3) *Mediational models considering multiple latent variables simultaneously (Model 3)*: Subsequently, in line with the aim of the present work that intended to analyse psychological functioning in its complexity, a more general model (Model 3, M3), was tested. Model 3 differed from single models 2A, 2B, and 2C because it considered all the three outcome variables of Somatization, Anxiety, and Depression, simultaneously. Path associations between predictors, mediators and outcome variables emerged in Model 3 were analyzed at a qualitative level, and compared to those emerged in single models 2A, 2B,and 2C, in order to see if single models, focusing on more specifical internalizing symptoms, could be considered as more interesting

4) *Multigroup analysis for gender comparisons (Model 4)*: hypotheses about association among predictors and internalizing symptoms were then tested using multiple-group analysis within a structural equation model (Ullman, 2013), in order to compare gender as regards the hypothesised association between variables. In multiple-group analysis within a structural equation model, a series of models were tested. First, models were tested separately in each subgroup of, respectively, women and men, and the fit of the model and the significance of the prediction paths were tested within each model. The multiple-group models are then examined to test for differences across the subgroups. The measurement model and the structural model were then tested across the two groups.

Statistical analyses were conducted using computer softwares as SPSS Statistics 21 and Lisrel 8.8.

Results

1. *Descriptive analyses:* Since data showed some violations to normality assumptions, Blom's normalization was conducted in order to achieve normality, and, afterward, a T-score transformation, that made scale scores directly interpretable, was applied with regards to PAI, ECR, and ASA. After transformation, descriptive statistics of transformed scale scores were carried out in order to analyze normality assumptions of data distribution (see Appendix 3).

2. *Association between protective and risk factors:*

Correlations. Before conducting the SEM model, correlations between variables were investigated. Overall, statistically significant correlations of medium and large effect size between internalizing symptoms –assessed by PAI, STAI-Y, SCL90R- and, respectively, adult (RQ) and romantic (ECR-R) attachment, emerged (table 14). One exception was for attachment avoidance as assessed by, both, RQ D and the Avoidant dimension of ECR-R, that, in line with expectations and with literature (biblio), showed only small correlations with Separation anxiety and with internalizing symptoms. For this reason, Avoidant dimensions, of both adult and romantic attachment, were not included in the SEM model.

Also interpersonal skills (Warmth and Dominance), and emotional regulation (represented by the scale of Aggression attitude) showed medium size correlations with internalizing symptoms.

Similar trends emerged for correlations between variables of interest in men and women considered separatedly (Table 15).

Moreover, results provided support to convergent validity of the PAI, as highlighted by correlations, that were not too weak (< 0.3) or too strong (> 0.9) (Rovner et al., 2014) between PAI scales and scales assessing similar constructs like SCL90-R, and STAI-Y. Finally, moderate intercorrelations among PAI scales emerged. This suggests adequate discriminant validity (Bishop & Hertenstein, 2004) between related aspects of personality assessed by the PAI, like, for example, between the two scales of Dominance and Aggression. In other words, as specified by theory, the scales measure related but still separate aspects of temperament.

Table 14. Correlations among variables of the SEM Model for the overall sample (attachment, Separation anxiety, interpersonal relationships and internalizing symptoms; N=308)

	Pai	Scl90-R	Stai	rq	Ecr-R	ASA

	SOM	ANX	ARD	DEP	AGG	DOM	WRM	Som	Obs	Dep	Anx	Phob	A	B	C	D	anx	avoid	
PAI																			
SOM	1																		
ANX	.54**	1																	
ARD	.45**	.71**	1																
DEP	.46**	.65**	.59**	1															
AGG	.18**	.45**	.40**	.37**	1														
DOM	-.29**	-.35**	-.16**	-.45**	-.10	1													
WRM	-.14*	-.28**	-.23**	-.44**	-.41**	.38**	1												
Scl90-R																			
Som	.53**	.40**	.33**	.39**	.13*	-.26**	-.17**	1											
Obs	.40**	.52**	.49**	.58**	.35**	-.37**	-.27**	.50**	1										
Dep	.41**	.56**	.49**	.66**	.28**	-.29**	-.29**	.54**	.72**	1									
Anx	.34**	.57**	.48**	.51**	.26**	-.22**	-.20**	.50**	.55**	.69**	1								
Phob	.31**	.38**	.38**	.39**	.25**	-.16**	-.22**	.30**	.40**	.41**	.37**	1							
Stai trait	.44**	.72**	.61**	.75**	.47**	-.42**	-.39**	.39**	.59**	.66**	.56**	.39**	1						
RQ																			
A	-.13*	-.30**	-.29**	-.33**	-.26**	.21**	.50**	-.11*	-.12*	-.24**	-.25**	-.09	-.35**	1					
B	.20**	.35**	.35**	.36**	.25**	-.24**	-.32**	.24**	.28**	.33**	.31**	.14*	.39**	-.39**	1				
C	.24**	.37**	.28**	.33**	.25**	-.31**	-.12*	.15*	.27**	.34**	.27**	.17**	.33**	-.17**	.12*	1			
D	-.11*	-.19**	-.11	-.04	-.01	.15**	-.15**	-.14*	-.06	-.08	-.05	-.03	-.11*	-.20**	-.09	-.31**	1		
Ecr-r																			
Anx	.35**	.52**	.49**	.56**	.25**	-.32**	-.19**	.36**	.42*	.45**	.41**	.30**	.62**	-.20**	.33**	.32**	-.16**	1	
Avoid	.09	.23**	.26**	.40**	.24**	-.10	-.28**	.15*	.25**	.24**	.16**	.22**	.28**	-.20**	.24**	.03	.12*	.44**	1
ASA	.44**	.67**	.66**	.45**	.35**	-.21**	-.162**	.40**	.40**	.41**	.51**	.36**	.56**	-.21**	.21**	.33**	-.21**	.53**	.09	1

Table 15. Correlations among variables of the SEM Model, separated for genders (women in the line above the diagonal (N=227), men in the line under the diagonal (N=81))

	PAI							Scl90-R					STAI	rq				Ecr-r		Asa
	SOM	ANX	ARD	DEP	Agg	DOM	WRM	Som	Obs	Dep	Anx	Phob		a	b	c	d	anx	avoid	
Pai																				
SOM	1	.52**	.48**	.45**	.22**	-.21**	-.13	.51**	.37**	.41**	.36**	.28**	.46**	-.11	.11	.21**	-.07	.38**	.11	.44**
ANX	.53**	1	.69**	.66**	.48**	-.30**	-.31**	.42**	.52**	.58**	.63**	.36**	.72**	-.29**	.30**	.33**	-.13	.51**	.23**	.65**
ARD	.34**	.69**	1	.58**	.42**	-.11	-.27**	.37**	.52**	.50**	.52**	.34**	.60**	-.27**	.31**	.24**	-.05	.50**	.27**	.65**
DEP	.47**	.62**	.60**	1	.39**	-.41**	-.47**	.40**	.60**	.69**	.54**	.38**	.76**	-.33**	.32**	.31**	.02	.54**	.41**	.43**
AGG	.05	.32**	.28*	.26*	1	-.07	-.40**	.19**	.37**	.30**	.29**	.25**	.48**	-.21**	.23**	.23**	-.05	.25**	.21**	.36**
DO M	-.46**	-.46**	-.24*	-.57**	-.16	1	.34**	-.24**	-.33**	-.29**	-.23**	-.15*	-.39**	.23**	-.19**	-.30**	.17**	-.32**	-.10	-.18**
WR M	-.15	-.19	-.13	-.36**	-.44**	.47**	1	-.18**	-.29**	-.33**	-.23**	-.25**	-.41**	.44**	-.30**	-.12	-.08	-.23**	-.30**	-.20**
Scl90-R																				
Som	.58**	.34**	.20	.34**	-.04	-.30**	-.13	1	.51**	.58**	.54**	.29**	.45**	-.13	.20**	.14*	-.09	.39**	.16*	.41**
ObS	.45**	.56**	.45**	.523**	.29**	-.48**	-.22*	.47**	1	.72**	.56**	.41**	.61**	-.12	.23**	.22**	-.02	.41**	.26**	.38**
Dep	.37**	.49**	.43**	.54**	.18	-.29**	-.16	.41**	.76**	1	.71**	.38**	.68**	-.26**	.31**	.31**	-.03	.45**	.24**	.41**
Anx	.28*	.42**	.35**	.40**	.10	-.18	-.11	.37**	.55**	.61**	1	.39**	.60**	-.29**	.29**	.27**	-.02	.43**	.18**	.53**
Phob	.39**	.46**	.53**	.44**	.24*	-.19	-.15	.32**	.38**	.51**	.30**	1	.38**	-.07	.07	.12	.03	.24**	.19**	.36**
Stai	.35**	.70**	.58**	.72**	.39**	-.48**	-.33**	.20	.55**	.55**	.36**	.42**	1	-.36**	.36**	.29**	-.08	.60**	.29**	.53**
RQ																				
A	-.14	-.26*	-.28*	-.29**	-.37**	.14	.62**	-.04	-.10	-.14	-.06	-.16	-.28*	1	-.39**	-.18**	-.19**	-.23**	-.17**	-.21**
B	.38**	.43**	.39**	.45**	.30**	-.36**	-.40**	.34**	.41**	.37**	.36**	.34**	.45**	-.36**	1	.11	-.05	.34**	.23**	.16*
C	.30**	.51**	.39**	.38**	.28*	-.33**	-.12	.15	.46**	.43**	.26*	.37**	.46**	-.11	.11	1	-.33**	.28**	-.03	.30**
D	-.19	-.31**	-.20	-.15	.13	.09	-.32**	-.22*	-.15	-.22*	-.13	-.20	-.19	-.27*	-.18	-.26*	1	-.13*	.16*	-.16*
Ecr-r																				
anx	.27*	.56**	.48**	.61**	.22*	-.33**	-.10	.28*	.45**	.44**	.31**	.46**	.71**	-.09	.29**	.48**	-.22	1	.41**	.542**
avoid	.02	.24*	.25*	.35**	.31**	-.10	-.23*	.10	.21	.26*	.07	.32**	.28*	-.28*	.29**	.26*	.02	.55**	1	.09
asa	.40**	.67**	.65**	.48**	.27*	-.27*	-.04	.32**	.48**	.39**	.43**	.38**	.60**	-.15	.31**	.40**	-.31**	.49**	.10	1

*Structural Equation models***.** With regards to the investigation of the association between variables of interest, ML is the most popular SEM parameters estimation method given that it provides asymptotically unbiased, consistent parameter estimates (Bollen, 1989; Finch, West, & MacKinnon, 1997; Muthén & Kaplan, 1985, 1992; West, Finch, & Curran, 1995). However, since multivariate normality assumption requirement in ML was not fulfilled for RQ and SCL90R, that showed some degree of positive skewness in data distribution (Bollen, 1989; Coenders & Saris, 1995; DiStefano, 2002), RML method, basing on covariance and asymptotic correlations matrix for obtaining parameter estimations (Batista & Coenders, 2000) and Satorra-Bentler Scaled Chi-square (Satorra & Bentler, 1994) were considered as more suitable.

1) Multiple multivariate regression model with latent variables (M1):

In Model 1, all the indipendent variables were considered as predictors. Initially, the model was specified starting from a 'saturated model', where all the independent variables were associated with each of the dependent variables, that is Somatization, Anxiety And Depression. After, through a step by step procedure, the model was modified removing non significant associations between independent and dependent variables, but also non significant associations between mediators. The final model, where all the path coefficient were statistically significant, is reported in figure 10, with estimates of measurement model and the structural coefficients reported in standardized metric, for an easier interpretation.

All fitted indices were between good and acceptable, with the exception of RMSEA and SRMR, that indicated a mediocre fit, and GFI and NNFI that indicated a poor fit. The loadings of the path coefficients that are depicted in Figure 9 were all statistically significant. The model explained 42% of variance, R^2=42% for SOM, R^2=75% for ANX, R^2=60% for DEP.

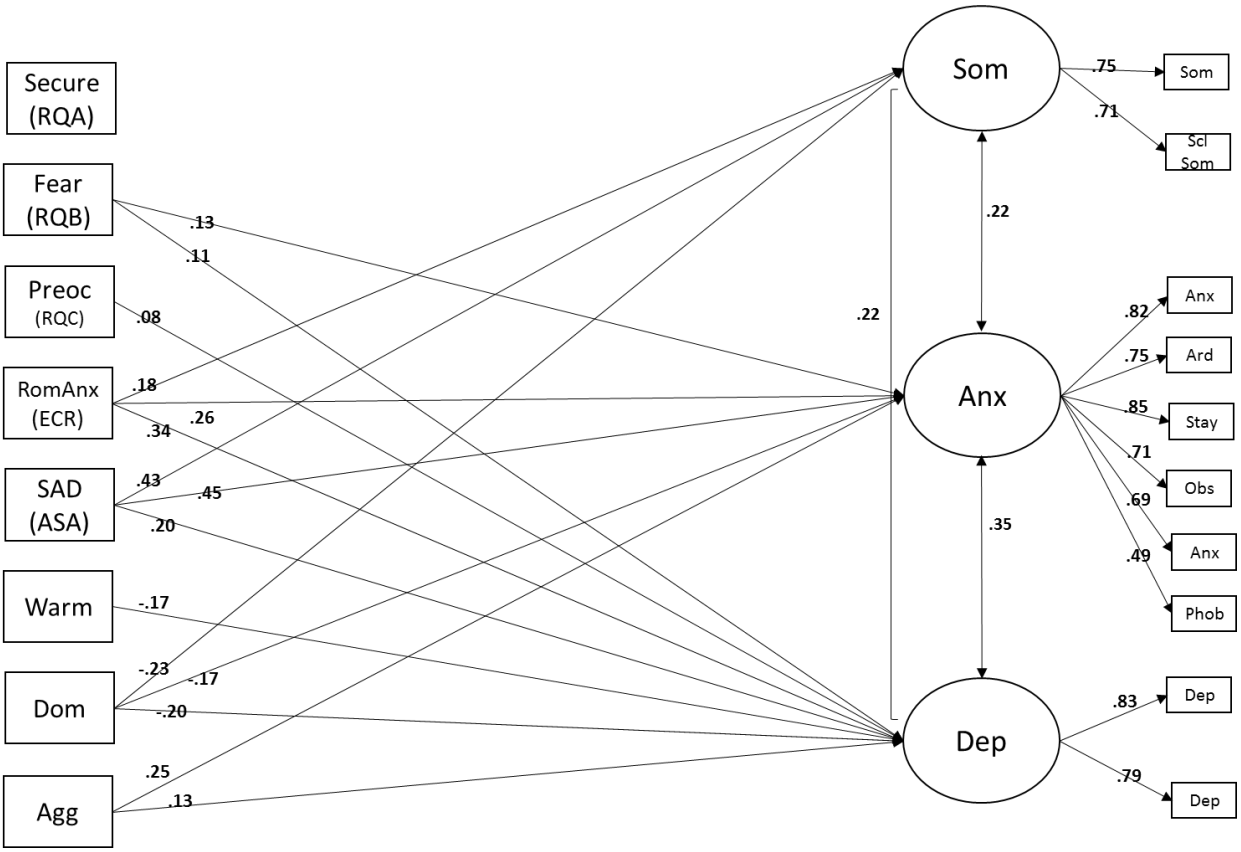

Figure 10. Model 1 for association between attachment, interpersonal skills, aggression, Separation anxiety, and internalizing symptoms in the overall sample (N=308). Model1 (all independent variables as predictors, which correlated from .33-.53).

Mediational models

2) *Mediational models with single latent variables (Model 2a, Model 2b, Model 2c)*: Subsequently, in line with the hipotheses of the present work and with literature suggestions, a mediational approach was adopted hipothesizing, as predictor variables, Secure (RQA), Fearful-avoidant (RQB), and Preoccupied (RQC) attachment styles and, as mediator variables, interpersonal skills –i.e., Warmth and Dominance-, Separation anxiety, and Aggression attitude.

To this aim, three separate models were firstly tested (Table 16). The three models differed as regards outcome variables, with model 2A, model 2B, model 2C hypothesizing, respectively, Somatization, Anxiety, and Depression as outcome variables. All the three models showed good adjustment fit indices.

Table 16. goodness of fit indices for the three SEM mediational models, respectively with Som (M2a), Anx (M2b), Dep (M2c) as outcome variables

Fit indexes	**Model 2A (Somatization)**	**Model 2B (Anxiety)**	**Model 2C (Depression)**

df	20	60	17
Chi-Square	18.238	172.463	26.347
RMSEA	0	.0781	.0423
90%CI RMSEA	.0 ; 0.0444	0.0646 ; 0.0919	0 ; 0.0724
CFI	1	.971	.994
NNFI	1	.956	.994
GFI	.988	.924	.983
SRMR	.0307	.0488	.0344

N= 308 method Robust ML

3) *Mediational models considering multiple latent variables simultaneously (Model3):* Subsequently, since the aim of the present work focused on the analysis of psychological functioning from a more general perspective, that is, investigating psychological functioning in its complexity, a more general and complex model (M3), that considered simultaneously all the three outcome variables of Somatization, Anxiety, and Depression, was tested.

Given their lower complexity and number of parameters to estimate, Models 2A, 2B and 2C, revealed better goodness of fit indices compared to Model 3. Anyway, since Models 2A, 2B and 2C showed no differences in terms of path associations among considered variables, compared to Model 3, this latter was considered as more suitable for the aims of the present work, given that it allowed to analyse psychological functioning in its overall complexity. For the above mentioned reasons, in the following pages, after presenting fit indices of Models A, B and C, the discussion will focus on Model 3 (M3).

In model 3 (M3), interpersonal skills, aggression, and adult Separation anxiety where hipothesized to exert a mediating role between attachment and internalizing symptoms in terms of Somatization, Anxiety, and Depression. In this second model, the analysis was run starting from a 'saturated model', that is, all the independent variables were associated with each dependent variable. After, following a step by step procedure, the model was modified removing non significant path associations, both between independent and dependent variables, as well as between mediators. The last model, the one that revealed all the path coefficient that were statistically significant, is reported in figure 10. Basing on the squared multiple correlation coefficients, the model explained the 60.7% of the variance, reapectively 42% in somatization, 74% in anxiety, and 59% in depression.

All of the hypothesized path weights were in the expected direction and significant at the .05 level, in line with the hypotheses.

Also in this second model, all fitted indices were between good and acceptable, with the exception of for RMSEA and SRMR, that indicated a mediocre fit, and GFI and NNFI, that indicated a poor fit.The estimates of measurement model and the structural coefficients, in standardized metric for an easier interpretation, are depicted in Fig. 11. The loadings of the path coefficients depicted in figure are all statistically significant.

Examination of the model revealed that all the path coefficients showed associations which direction was in line with the expectations. In particular, anxious romantic attachment (RomAnx ECR-R) exerted a medium effect on depression and anxiety dimensions of internalizing functioning, and also on adult Separation anxiety. Adult Separation anxiety, in turn, influenced the three considered dimensions of internalizing functioning, in particular exerting a medium effect on Somatization and Anxiety features.

Secure adult attachment (RQA) have a medium predictive role on interpersonal skills of Warmth, that in turn revealed just a small negative (i.e., protective) effect on Depressive functioning.

Aggressive attitude, which seemed to be partially influenced by insecure adult attachment (RQB and RQC), showed a predictive effect on Anxiety.

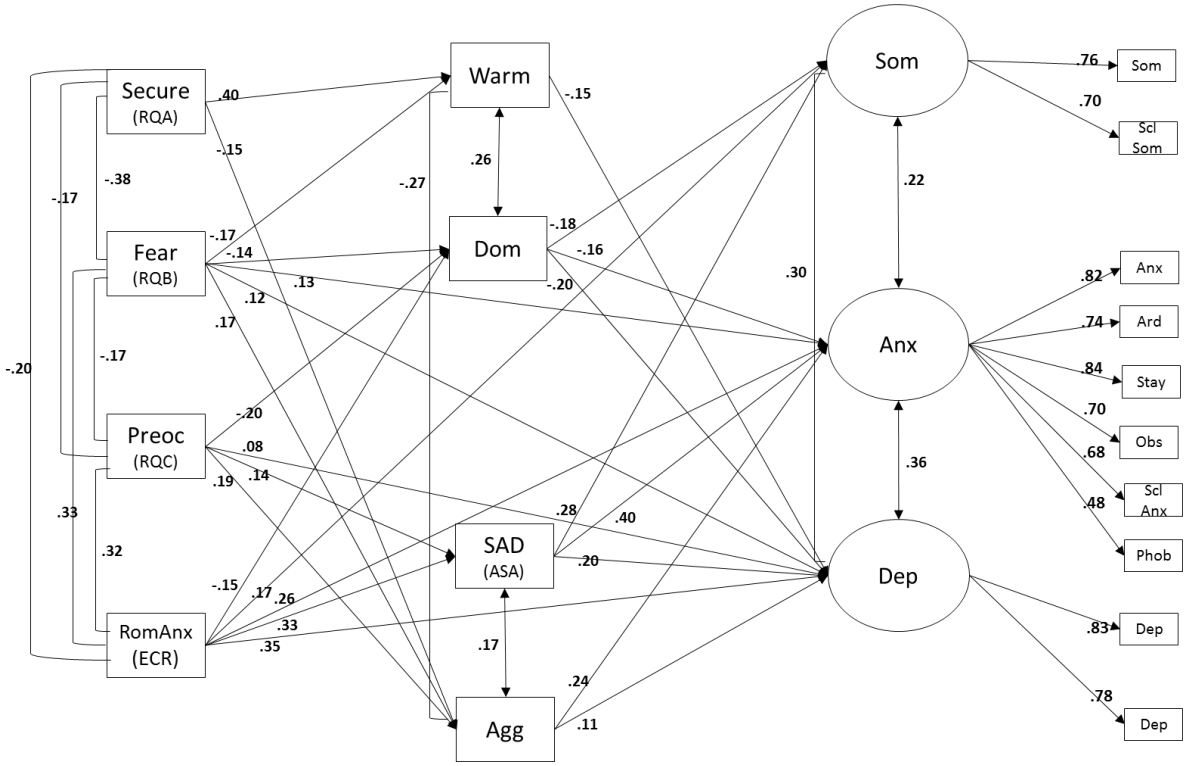

Figure 11. Model 3 for association between attachment, interpersonal skills, aggression, Separation anxiety, and internalizing symptoms in the overall sample (N=308)

Comparison among Model 1 (multiple multivariate regression model with latent variables) and Model 3 (Mediational model considering multiple latent variables simultaneously)

A comparison between Model 1 and model 3 was then carried out, in order to investigate if the hipothesis of a mediating role (Model 3) could further contribute to the understanding of the association and of the possible predictive role between variables of interest. To this aim, models were compared by means of statistical indices of comparison, BIC AIC and ECVI, and also comparing the two different models with regards to the extent of total effects revealed for each predictive variable.

Model 3 showed the lowest AIC/BIC/ECVI values and therefore the best trade-off between model fit and model complexity (table 17). Also total effects for predictors highlighted by Model 1 and Model 2 were compared at a qualitative level, showing that model 3 provided higher effects for predictors (table effectx).

Table 17. Model comparison between the model with all IV as predictors (M1) and the mediation model (M2)

Fit indexes	**Model 1 multiple multivariate regression model with latent variables**	**Model 3 Mediational models considering multiple latent variables simultaneously**
df	97	106
Chi-Square	395.328	409.317
RMSEA	.10	.0965
90%CI RMSEA	. 0899; 0.110	0.087; 0.107
CFI	.961	.958
SRMR	.0527	.0593
BIC	819,36	**781,77**
AIC	543.328	539.317
ECVI	1.770	1.757
		Model 1 vs 2
	$\Delta\chi 2$ (Δdf)	**13,989(9)**

	(p)	**(p=.123)**

method Robust ML (*N*= 308)

A qualitative comparison between effects of M1 and M3, was carried out in order to investigate differences between the two models as regards effects exerted by predictors on outcome variables (Table 18). Since Model 1 had only predictors it only provided direct effects: (a) Somatization was predicted by ECR-anx (b) Anxiety was predicted by, both, RQB, and ECR-anx, (c) Depression was predicted by RQB, RQC, and ECR-anx.

Model 3, compared to Model 1, also provided indirect effects, that were represented by the relationship between attachment and psychological adjustment, mediated by interpersonal skills of Dominance and Warmth, Aggressive attitude, and Separation Anxiety: (a) higher secure attachment was expected to predict lower Depression via Wamth, and higher anxiety via Aggressive attitude; (b) higher Fearful-avoidant attachment (rqb) predicted: (b1) both higher somatization and anxiety, via dominance; (b2) higher depression, both via dominance and aggression.

A qualitative analysis to compare total effects of, respectively, M1 and M3, was carried out. The mediational approach of M2 revealed increasing total effect for predictive variables, on outcome variables, compared to Model 1: (a) effects of anxious romantic attachment (ECRAnx) on Somatization went from little to medium size, (b) increasing effects also emerged for RQB and ECRAnx, the latter showing a large effect on Anxiety, (c) Fearful-avoidant (RQB) and preoccupied (RQC) adult attachment had an increased effect in M3 on Depression, Although these effects remained small, while ECRAnx showed medium size effects on Depression.

Table 18. Direct (D), indirect (I), and total (T) effects for Model 1 (M1) and for Model 2 (M2)

Effects MOD 2	**SOM**				**ANX**				**DEP**			
	M1	**M3**			**M1**	**M3**			**M1**	**M3**		
	T	D	I	**T**	T	D	I	**T**	T	D	I	**T**
RQA							-.04	-.04			-.08	-.08
RQB			.04	.04	.13	.13	.07	**.20**	.11	.12	.07	**.19**
RQC			.13	13			.17	.17	.08	.08	.11	**.19**
EcrAnx	.18	.18	.24	**.42**	.26	.26	.24	**.50**	.34	.35	.13	**.48**

4) *Multigroup analysis for gender comparisons*: Model 3, that showed the best fit to data both from statistical and qualitative point of view, compared to model 1, was also chosen for testing gender comparisons.

In multiple-group analysis within a structural equation model, a series of models are tested. First, good-fitting models are established separately in each subgroup of interest, that is, respectively, women and men.

First of all, two SEM models were conducted for women, and for men, separatedly (figure 11). Explained variance in both cases was good, (**Men R^2=78.7%, 45% somatization, 86% anxiety, and 79% depression; Women R^2=96.2%, 44% somatization, 70% anxiety, and 55% depression)**, with similar standardized path coefficients emerged for the two separated genders. The hypothesized model (see Figure 12) was tested for each group individually, and there was evidence that the model fit each group acceptably (Table 20).

In the SEM model that was carried out for each group separatedly, few differences emerged between men and women in path associations among variables. Secure attachment and Dominance showed larger associations coefficients, that is they seemed to be more predictive in the men group. Romantic anxiety seemed to be more associated to Anxiety and Depression in men, while in the women group Romanitc anxiety appeared to have larger predictive role on Somatization and Separation anxiety.

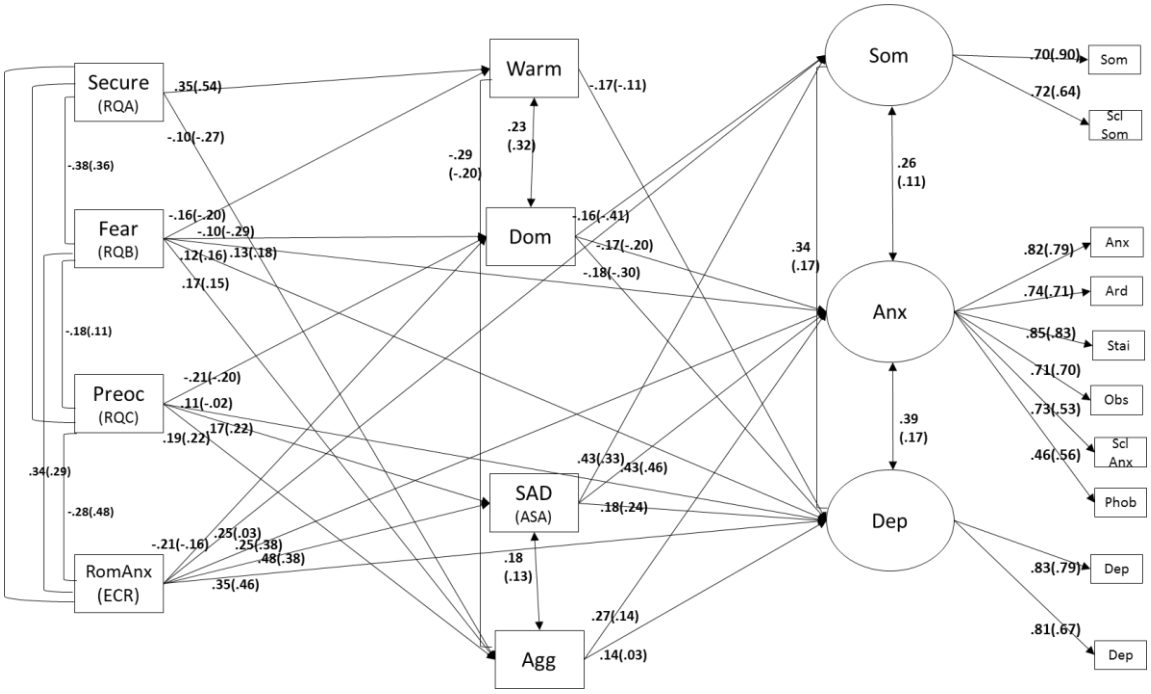

Figure 12. Model for association between attachment, interpersonal skills, aggression, Separation anxiety, and internalizing symptoms (women n=227, men n=81), separated for genders. Values for women (values for men are reported in brakets).

The multiple-group models are then examined to test for differences across the subgroups. This multiple-group model is called the baseline model. In the baseline model, all the paths (factor loadings and regression coefficients) were allowed to vary across the three groups. Next, a model of metric invariance was tested in which all the paths from the measured variables to the constructs were constrained to equality. This model tested the hypothesis that the measurement structure for the constructs was the same across the three groups, with regards to: (1) association among predictors and mediators, (2) association among predictors and, respectively, mediators and outcomes, and (3) error variance for predictors and outcomes. This model fit the data well, and the chi-square difference test computed to compare these nested models indicated that the model was equally acceptable to the baseline model, therefore, paths were similar between the two groups. The model of metric invariance revealed similar fit indices, compared to the model of configural invariance (table 20). The comparison between configural and metric invariance revealed non significant chi-square difference, allowing to support the presence of metric invariance between genders with regards to path coefficients.

These results suggested that the hypothesized multigroup model with its paths well-represent both men and women, with R^2= 59.7%, the 41% of variance for somatization, 72% for anxiety, and 58% for depression, accounted for in the model, as indicated by the squared multiple correlation coefficients. The final model, with standardized coefficients, is presented in Figure 12.

Examination of the model revealed that all the path coefficients showed associations which direction was in line with the expectations and significant at the .05 level, as already emerged in the model run on the overall sample (see figure 13).

Among largest effects, medium effect size emerged for secure attachment style, that predicted higher levels of warmth in relationships, although the latter did not revealed large effects on internalizing symptoms. In particular, the strongest predictive role seemed to be showed by anxious romantic attachment (RomAnx ECR-R). Medium effects emerged also for anxious romantic attachment that predicted increasing levels of, respectively, symptoms of anxiety, depression, and Separation anxiety. The latter, in turn, predicted somatization and anxiety symptoms. Anxious romantic attachment also predicted, but with small effect sizes, reducing levels of somatization and increasing levels of dominance in interpersonal relationships.

Other significant associations revealed small effects. Preoccupied attachment negatively predicted dominance in relationships. Fearful-avoidant attachment style predicted lower levels of interpersonal skills, that in turn showed small negative effects (i.e. reduced) on internalizing symptoms, and higher levels of, respectively, aggressive attitudes, anxiety and depression.

Finally, particularly interesting seems to be specifical paths emerged for Fearful-avoidant attachment style (RQB), that is characterized by an underlying distrust of caregiving others with the dismissive-avoidant. Although

supported by small coefficients, fearful-avoidant attachment showed a predictive role on internalyzing symptoms, that could be shown through two different mediation paths that lead people with fearful-avoidant attachment style to experience anxiety in situations of close interpersonal relationships.

In one path, the association between Fearful-avoidant attachment and internalizing symptoms was mediated by interpersonal Dominance, that is, behavios of being autonomy and scarce involvement in interpersonal relationships. In the case of Dominance, this behavior could represent individual defence against feelings of anxiety and depression. Following what is called as an approach-avoidance conflict, individuals with fearful-avoidant attachment style realize they need and want intimacy, but when they are in a relationship that starts to get close, their fear and mistrust surfaces and they distance (Sharpsteen & Kirkpatrick, 1997). Then, they start seeking less intimacy from partners and frequently suppressing and denying their feelings in order to avoid close involvement with others and to protect themselves from anticipated rejection (Bartholomew, 1991).

The other path revealed the mediation of Aggressive attitudes, that could reflect the attempt to actively distance significant attachment figures, emerging as further predictor of increasing levels of internalyzing symptoms.

A similar path emerged for the Preoccupied (RQC) attachment style, where it emerged as a predictor of Anxiety and other internalyzing symptoms. For individuals with Preoccupied attachment style, intimacy and closeness are the core needs. These needs result in wanting reassurance that things are okay, and that their partner is readily accessible to them emotionally and maybe even physically depending on the situation (Levine & Heller, 2010). This SEM model suggested that, if individuals with preoccupied attachment experience scarce support from their attachment figures, they can react in different ways. Besides the mediation exerted by Separation anxiety, that is particularly related to preoccupied attachment style, the association between Preoccupied attachment and internalyzing symptoms emerged to be mediated by interpersonal Dominance and by Aggressive attitudes (Morse et al., 2009), when individuals feel like their need for love doesn't get fulfilled, they can sometimes express this through anger at the partner. Also in the case of Preoccupied attachment, Dominance emerged to be used as a defensive strategy in order to avoid internalizing symptoms, while feelings of separation anxiety, as well as of Aggression attitudes, predicted further increasing in internalizing difficulties.

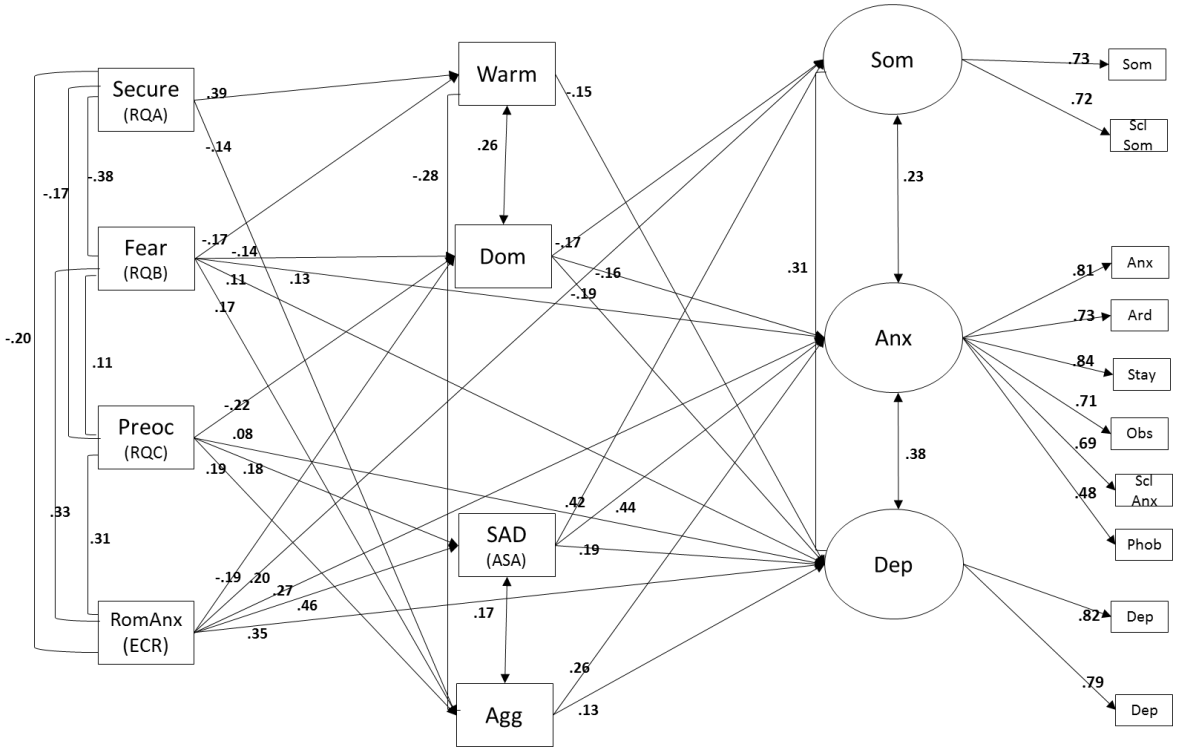

Figure 13. Model 4 for gender metric invariance: association between attachment, Separation anxiety, interpersonal skills, internalizing symptoms.

Table 20. Model comparison between configural and metric invariance

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	SRMR	90%CI	P

										RMSEA	
Women	299.149	106				.090	.963	.947	.063	.078 ; 0.102	<.001
Men	180.699	106				.094	.958	.939	.077	.070 ; 0.117	.002
Configural invariance	547.423	212				.094	.959	.941	.0774	.085 ; .104	<.001
Total invariance	**628.073**	**277**	**80,65**	**65**	**0,091**	**0,084**	**0,957**	**0,953**	**0,121**	**.076 ; 0.093**	**<.001**

Conclusions study 2

Participants revealed in some cases scores that were higher than normative samples. This was in line with literature for Borderline features (Morey, 2007). Scores were higher also for Separation anxiety, in line with previous studies on homesickness in university students highlighting that young adult college students may be particularly vulnerable to Separation anxiety as they transition into college and away from primary caregivers (Thurber & Walton, 2012). Similar reasons could be hypothesized to interpret higher scores of avoidant attachment styles emerged for young adults from the present sample, that may be related to the attempt to take affective distance from significant other among parents and relatives, in order to suffer less from homesickness. In fact, young adults are in a developmental phase that is characterized by different responsibilities, demands and stresses from different domains of their existence (Evans, 2007; Evans et al., 2001) that can in turn affect their psychosocial functioning (Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2003). Moreover, since young adults of the present sample, were all students, they could also experience further difficulties due to academic, financial and social pressure, in turn factors that negatively affects psychosocial adjustment (Bitsika et al., 2011; Neckelmann, Mykletun, & Dahl, 2007; Negovan, 2010).

Although the sample was not numerically balanced in the percentage of men and women, also results concerning gender differences were in line with previous studies. These results were supported for personality characteristic (Morey, 2007) as well as for internalizing symptoms.

Results of Structural Equation Modeling suggest also gender metric invariance, that is, similar paths among, on the one hand, protective and risk factors and, on the other hand, internalizing symptoms.

Previous studies already analyzed the role of attachment, Separation anxiety, emotional regulation, and interpersonal skills in influencing psychological adjustment, but, to the knowledge of the author, few studies addressed simultaneous association among all these variables in a single SEM model. The present study intended to fill this gap of literature, analyzing influence of both individual and relational functioning, on internalizing symptoms.

In line with literature, the predictive role of risk and protective factors on psychological functioning (Roberts et al., 2007; Roberts & Mroczek, 2008; Roberts et al., 2006; Roberts & Wood, 2006) suggested secure attachment and relational skills to be protective factors for internalizing symptoms while insecure attachment, aggression, and Separation anxiety emerged to be risk factors for internalizing symptoms.

More specifically, results supported the role of secure attachment in psychological health (Mikulincer & Shaver, 2003; shemmings, 2006) by, on one hand, increasing interpersonal skills (Doron & Kyrios, 2005; lorenzini & fonagy, 2009; Ivarsson, Granqvist, Gillberg, & Broberg, 2010; Mikulincer & Shaver, 2003; Noftle & Shaver, 2006; Perry, DiTommaso, Robinson, & Doiron, 2007; Shaver & Mikulincer, 2002) and emotional control in terms of aggressive attitudes (Bookwala & Zdaniuk, 1998; Levy, Clarkin, Yeomans, et al., 2006; Mikulincer, 1998; Mikulincer, Shaver, & Pereg, 2003; Bookwala & Zdaniuk, 1998; Levy, Clarkin, Yeomans, et al., 2006; Mikulincer, 1998; Mikulincer, Shaver, & Pereg, 2003), and, on the other hand, in reducing levels of Separation anxiety (Brumariu & Kerns, 2010). In particular, both romantic and adult attachment styles, as representative of self-other perception (Fino, Iliceto, Sabatello, Petrucci, & Candilera, 2014), emerged to be predictive of, respectively, emotion regulation, interpersonal skills, and internalizing symptoms. Furthermore, for both men and women, attachment in romantic relationships in young adulthood seemed to be as important (Lehnart & Neyer, 2006), showing a larger role in predicting internalizing symptoms, compared to other predictive variables of the hypothesized model, a larger role also compared to adult attachment to other significant people like family and friends .

Although possible gender differences were underlined in the literature concerning perception and reaction to stressful situations through the expression of internalizing symptoms (Costello et al., 2005; Quintana - Kerr, 1993), research study suggested that during young adulthood these gender differences with respect to internalizing symptoms can be reduced, or even inverted (Galambos et al., 2006; Lewinsohn et al., 2003). Therefore, this further highlights the

role exerted by stressful demanding related to the developmental phase of young adulthood, that is so important to the extent that it moves gender differences to the background.

Finally, Study 2 also provided a contribution to construct validity of the PAI, in terms of convergent and divergent validity with other measures.

Among limits of the present study, the number of participants emerged as not completely sufficient, given the number of parameters involved in considered SEM Models.

Moreover, variables of interest were investigated basing on selected questionnaires, thus on their specific operationalization and assessment of constructs of interest. Studies carried out through other instruments could highlight different results.

Future studies on larger samples could allow to investigate if different predictive effects can emerge among different components of internalizing symptoms, such as cognitive, emotional, and physiological aspects of anxiety and depression, or among different dimensions of somatization, like somatic conversion, somatization, health concerns.

The present work focused on non clinical samples of youn adults. Future studies could investigate the association among attachment styles, Separation anxiety, interpersonal skills, and internalizing symptoms in clinical samples. Moreover, also the role of attachment styles, Separation anxiety, and interpersonal skills on other psychopathological symptoms assessed by the PAI could be investigated, such as personality disorders. An analysis of PD symptom content in young adults could help inform clinicians and clinical researchers more broadly regarding the core elements of personality pathology as conceptualized in the *DSM*, with implications for other diagnostic systems as well (e.g., the *Psychodynamic Diagnostic Manual* [*PDM*]; Alliance of Psychoanalytic Organizations, 2006). Although functioning and traits are conceptually distinguishable, it could be interesting to separate them empirically (Mullins-Sweatt & Widiger 2010, Ro & Clark 2009; Berghuis et al. 2012). Indeed, how maladaptive personality functioning (Criterion A) and maladaptive personality content (Criterion B) interweave should be studied further.

Moreover, a rigorous test of the role of protective and risk factors would require a prospective longitudinal study in order to ensure that protective and risk factors arise before the onset of disorders (e.g., Manicavasagar et al., 2009).

Future studies could also address the role of other predicting variables in predicting adult attachment, interpersonal skills, aggressive attitudes, separation anxiety, internalizing symptoms, like retrospective early Separation Anxiety symptoms (Manicavasagar, 1997; Silove et al., 1993).

General discussion

In the present work, PAI received support as a useful instrument, since it is characterized by some important characteristics that allow to assess self-other dimensions (Skodol, Bender, Morey, et al., 2011), like: a) a dimensional approach; b) a self-other orientation; c) feature central concepts and components; and d) being informative in the development of personality functioning.

The above mentioned advantages of the PAI and results from the present work support the use of the PAI with Italian young adults, highlighting its value in research and in clinical settings, as an important instrument for enhancing clinical diagnosis and understanding treatment process.

Starting from the assumption that adaptive personality traits can serve as protective factors against mental disorder and/or as strengths in psychological treatment (Skodol, Bender, Morey, Alarcon, et al., 2011), the PAI could meaningfully being applyed to patients, in order to improve the understanding of the DSM personality disorders.

The present work, starting from a literature review and following research suggestions as regards hypothesized direction of risk and protective factors on internalizing symptoms, intended to analyze aspects of functioning from a broad perspective tapping at attachment, personality, emotions, and internalizing features. Other strengths consisted in the use of several internationally validated constructs and measures. Moreover, a dimensional perspective attentive to levels of functioning in measured constructs allowed, for example, to better reveal aspects of functioning in a nonclinical sample, like the one used in Study 2. In line with literature, the predictive role of risk and protective factors on psychological functioning (e.g., Roberts & Mroczek, 2008; Roberts & Wood, 2006) suggested secure attachment and relational skills to be protective factors for internalizing symptoms while insecure attachment, aggressive attitudes, and Separation anxiety emerged to be risk factors for internalizing symptoms.

The dimensional perspective used in the present work allowed to better interpret features of functioning and to understand the role of single predictive factors that could exert a protective versus a risk role, depending on the side they appear. Results were in line with literature and with hypotheses. Several protective and risk factors, pertaining to both individual and interpersonal functioning, exerted a possible predictive role in the expression of internalizing symptoms in Italian young adults of the present sample, suggesting an influence on their general adjustment and functioning.

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Appendix

Appendix 1

Table. Reliability in subgroups of women, men, non psychology students

PAI SCALES	Women *N*=819		Men *N*=361		Non students *N*=489		Overall sample (N=1000; Morey, 2007)[b]	
	α (95%CI)	M interit corr	α (95%CI)	M interit corr	α (95%CI)	M interit corr	α	M interit corr
Somatic	**.77 (.74-.79)**	**.14**	**.80 (.77-.83)**	**.17**	**.76 (.72-.79)**	**.14**	**.89**	**.92**
Anxiety	**.87 (.85-.88)**	**.24**	**.83 (.80-.85)**	**.20**	**.84 (.81-.86)**	**.20**	**.90**	**94**
Anx Relat	**.75 (.72-.77)**	**.12**	**.73 (.69-.77)**	**.11**	**.73 (.69-.76)**	**.11**	**.76**	**86**
Depress	**.86 (.84-.87)**	**.20**	**.86 (.83-.88)**	**.20**	**.82 (.80-.85)**	**.16**	**.87**	**93**
Mania	.79 (.77-.81)	.14	.80 (.77-.83)	.14	.79 (.76-.82)	.14	.82	82
Paran	.82 (.80-.84)	.16	.83 (.80-.85)	.17	.80 (.78-.83)	.15	.85	89
Schizoph	.80 (.78-.82)	.15	.79 (.76-.82)	.14	.78 (.75-.81)	.13	.81	89
Border	.84 (.82-.85)	.17	.82 (.79-.85)	.17	.82 (.80-.84)	.16	.87	91
Antisoc	.71 (.69-.74)	.11	.78 (.75-.81)	.14	.76 (.73-.79)	.13	.84	86
Alcohol	.63 (.60-.67)	.15	.74 (.69-.77)	.23	.65 (.60-.69)	.17	.84	93
Drug	.53 (.47-.54)	.11	.69 (.64-.73)	.21	.56 (.50-.61)	.13	.74	89
Treatment								
Aggress Attit	**.83 (.81-.85)**	**.22**	**.82(.79-.84)**	**.21**	**.81 (.78-.83)**	**.20**	**.85**	**90**
Suicid Id	.85(.84-.87)	.40	.83(.81-.86)	.37	.77 (.74-.80)	.30	.85	93
Stress	.54 (.49-.59)	.14	.61 (.54-.67)	.18	.57 (.51-.62)	.16	.76	79
Nonsupp	.70 (.66-.73)	.23	.71 (.49-.59)	.24	.66 (.61-.70)	.20	.72	80
Treat Rej	.69 (.66-.73)	.21	.70 (.66-.75)	.23	.69 (.65-.73)	.22	.76	80
Interperson								
Domin	**.74 (.71-.76)**	**.19**	**.67 (.61-.71)**	**.15**	**.69 (.65-.73)**	**.16**	**.78**	**82**
Warmth	**.77 (.74-.79)**	**.22**	**.79 (.75-.82)**	**.24**	**.75 (.71-.78)**	**.20**	**.79**	**83**

Table. Reliability in psychology students

PAI SCALES	Students *N*=691		Students (N=1050; Morey, 2007) [a]	
	α (95%CI)	M interit corr	α	M interit corr
Clinical scales				
Somatic	**.79 (.77-.81)**	**.16**	**.83**	**19**
Anxiety	**.88 (.87-.89)**	**.26**	**.89**	**26**
Anx Relat	**.77 (.74-.79)**	**.13**	**.80**	**15**
Depress	**.88 (.86-.89)**	**.23**	**.87**	**25**
Mania	.80 (.77-.82)	.14	.82	16
Paran	.83 (.82-.85)	.18	.86	21
Schizoph	.81 (.79-.83)	.16	.82	18
Border	.84 (.83-.86)	.18	.86	21
Antisoc	.77 (.74-.79)	.13	.86	18
Alcohol	.71 (.68-.75)	.21	.83	21
Drug	.62 (.58-.66)	.18	.66	21
Treatment				
Aggress Attit	**.84 (.82-.86)**	**.23**	**.89**	**33**
Suicid Id	.81 (.86-.89)	.43	.87	44
Stress	.57 (.52-.62)	.15	.69	23
Nonsupp	.73 (.70-.76)	.26	.75	28
Treat Rej	.70 (.66-.73)	.22	.72	24
Interperson				
Domin	**.74 (.71-.76)**	**.19**	**.81**	**26**
Warmth	**.79 (.77-.81)**	**.24**	**.80**	**25**

Appendix 2 CFA on single scales of the PAI

MAN:

Goodness of fit of the MAN scale second order factor model was acceptable, χ 2SB= 1186.41, p ≅ 0.001, df = 246. RMSEA = .057; 90% C.I. for RMSEA = .054 ; 0.061, SRMR = 0.068, NNFI = .93, CFI = .94. Factor loadings were all statistically significant and the majority of them ranged from .38 to .72, with the exception of items 247 and 287, that had the lowest factor loadings (respectively, .26 and .15). Second order Model showed no statistically significant differences, lower BIC, AIC, and ECVI, and also similar fit indices compared to first order model, therefore it was considered as equally acceptable to the first-order Model.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the MAN scale for the overall sample and separated by gender and occupation (second order)

Fit indexes	first	second
x^2/df	1218.12/249	1186.41/246
RMSEA	. 057	.057
CFI	.93	.94
NNFI	.93	.93
GFI	.94	.94
SRMR	.068	.068
90%CI RMSEA	.054 ; 0.061	.054 ; .060
p (RMSEA)	<.001	<.001
BIC	1578,8	1568,37
AIC	1320.12	1294.41
ECVI	1.12	1.10
		Model 1 vs 2
$\Delta\chi2$ (Δdf) (p)		$31,71_{(3)}$ (p<.001)

Table. Test of measurement invariance of the *MAN scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	524.87/246					.055	.94	.93	.94	.074	.048 ; .062	.1
Women	927.36/246					.059	.93	.93	.94	.072	.054 ; .062	.0003
CI configural invariance	1446.61	486				.058	.93	.93	.93	.075	.055 ; .061	0
MI LX	1489.09	519	42.48	33	.125	.056	.93	.93	.93	.078	.053; .060	.0009
MI factor loadings and error variance	1526.59	543	79.98	57	.024	.055	.93	.93	.93	.078	.052 ; .059	.0032

Table. Test of measurement invariance of the *MAN scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	851.37	246				.060	.93	.92	.93	.076	.055 ; .064	.0001
No psico	621.97	246				.056	.94	.93	.94	.072	.051 ; .061	.036
CI configural	1445.27	486				.058	.94	.93	.94	.072	.054 ; .061	0

invariance												
MI LX	3043.13	519	1597.86	33	.000	.058	.93	.93	.93	.075	.054 ; .061	0
MI factor loadings and error variance	156.49	543	115.22	57	.000	.056	.93	.93	.93	.075	.053 ; .060	.00069

PAR

Goodness of fit of the PAR scale second order factor model was acceptable, χ 2SB= 1060.99/246, p ≅ 0.001, df = 246. RMSEA = .053; 90% C.I. for RMSEA = .050 ; .056, SRMR = .068, NNFI = .96, CFI = .96. Factor loadings were all statistically significant and the majority of them ranged from .30 to .71, with the exception of items 248 and 288, that had the lowest factor loadings (respectively, .26 and .21). Second order Model showed no statistically significant differences, lower BIC, AIC, and ECVI, and also similar fit indices compared to first order model, therefore it was considered as equally acceptable to the first-order Model.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the PAR scale for the overall sample and separated by gender and occupation (second order)

Fit indexes	first	second
x^2/df	249/1071.23	1060.99/246
RMSEA	.053	.053
CFI	.96	.96
NNFI	.96	.96
GFI	.95	.95
SRMR	.068	.068
90%CI RMSEA	.050 ; 0.056	.050 ; .056
p (RMSEA)	.07	.064
BIC	1431,97	1442,95
AIC	1173.23	1168.99
ECVI	1	.99
	Model 1 vs 2	
$\Delta\chi$2 (Δdf) (p)	10,24(3) (p<.001)	

Table. Test of measurement invariance of the *PAR scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	478.97	246				.051	.97	.96	.93	.086	.044 ; .058	.37
Women	855.72	246				.055	.96	.95	.95	.072	.051 ; .059	.019
CI configural invariance	1294.38	486				.053	.96	.96	.93	.086	.050 ; .057	.069
MI LX	135.64	519	56.26	33	.007	.052	.96	.96	.92	.091	.049 ; .056	.15
MI factor loadings and error variance	1384.69	543	9.31	57	.003	.051	.96	.96	.92	.091	.048 ; .055	.26

Table. Test of measurement invariance of the *PAR scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	682	246				.051	.97	.97	.96	.069	.046 ; .055	.39
No psico	592.99	246				.054	.95	.95	.93	.081	.048 ; .059	.13
CI configural invariance	1249.63	486				.052	.97	.96	.93	.081	.049 ; .056	.16

MI LX	1351.31	519	101.68	33	.000	.052	.97	.96	.91	.091	.049 ; .056	.14
MI factor loadings and error variance	136.31	543	11.68	57	.000	.051	.97	.97	.91	.910	.047 ; .054	.39

SCZ

Goodness of fit of the SCZ scale second order factor model was acceptable, χ 2SB= 870.82, p ≅ 0.001, df = 246. RMSEA = .046; 90% C.I. for RMSEA = .043 ; .050, SRMR = .079, NNFI = .97, CFI = .97. Factor loadings were all statistically significant and ranged from .33 to .76. Second order Model showed no statistically significant differences, lower BIC, AIC, and ECVI, and also similar fit indices compared to first order model, therefore it was considered as equally acceptable to the first-order Model.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the SCZ scale for the overall sample and separated by gender and occupation (second order)

Fit indexes	First	Second
x^2/df	878.64/249	870.82/246
RMSEA	.046	.046
CFI	.97	.97
NNFI	.97	.97
GFI	.96	.94
SRMR	.079	.079
90%CI RMSEA	.043 ; 0.050	.043 ; .050
p (RMSEA)	.97	.96
BIC	1239,38	1252,78
AIC	980.64	978.82
ECVI	.83	.83
		Model 1 vs 2
$\Delta\chi$2 (Δdf) (p)		7,82(3) (p=.05)

Table. Test of measurement invariance of the *SCZ scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	465.32	246				.05	.97	.97	.91	.099	.043 ; .057	.51
Women	643.93	246				.044	.98	.97	.94	.08	.040 ; .049	.99
CI configural invariance	108.11	486				.046	.98	.7	.91	.099	.042 ; .049	.98
MI LX	1153.59	519	73.48	33	.000	.046	.97	.97	.9	.100	.042 ; .049	.98
MI factor loadings and error variance	1193.23	543	113.12	57	.000	.045	.97	.97	.9	1.000	.042 ; .049	.99

Table. Test of measurement invariance of the *SCZ scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psycho	589/	246				.045	.98	.98	.94	.087	.040 ; .050	.96
No psico	522.53/	246				.048	.97	.97	.92	.088	.042 ; .054	.71
CI configural invariance	1117.79	486				.047	.98	.97	.92	.088	.043 ; .051	.91
MI LX	1162.97	519	45.18	33	.077	.046	.98	.98	.91	.096	.042 ; .049	.97
MI factor loadings and error variance	1221.1	543	103.31	57	.000	.046	.98	.97	.91	.096	.043 ; .049	.97

BOR

Goodness of fit of the BOR scale second order factor model was acceptable, χ 2SB= 1316.63, p ≅ 0.001, df = .248. RMSEA = .060; 90% C.I. for RMSEA = . 057 ; .064, SRMR = .072, NNFI = .95, CFI = .95. Factor loadings were all statistically significant and the majority of them ranged from .30 to .78, with the exception of items 219, that had the lowest factor loading (.21). Second order Model showed no statistically significant differences, lower BIC, AIC, and ECVI, and also similar fit indices compared to first order model, therefore it was considered as equally acceptable to the first-order Model.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the BOR scale for the overall sample and separated by gender and occupation (second order)

Fit indexes	first	second
x^2/df	1278.39/246	1316.63/248
RMSEA	.060	.06
CFI	.95	.95
NNFI	.95	.95
GFI	.94	.95
SRMR	.071	.072
90%CI RMSEA	.056 ; 0.063	.057 ; .064
p (RMSEA)	<.001	0
BIC	1660,35	1684,44
AIC	1714.34	1420.63
ECVI	1.18	1.20
	Model 1 vs 2	
Δχ2 (Δdf) (p)	$38{,}24_{(3)}$ (p<.001)	

Table. Test of measurement invariance of the *BOR scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	557.56/248					.059	.96	.95	.93	.084	.052 ; .065	.013
Women	948.41/248					.059	.95	.95	.95	.072	.055 ; .063	.0001
CI configural invariance	1399.85	476				.057	.96	.95	.94	.082	.054 ; .061	.00026
MI LX	1502.17	514	102.32	38	.000	.057	.95	.95	.92	.090	.054 ; .060	.00026
MI factor loadings and error variance	1546.73	538	146.88	62	.000	.056	.95	.95	.92	.090	.053 ; .060	.0007

Table. Test of measurement invariance of the *BOR scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psycho	955.04/248					.064	.95	.94	.94	.077	.060 ; .069	0
No psico	573.87/248					.052	.96	.96	.94	.077	046 ; .057	0
CI configural invariance	1414.25	476				.058	.96	.95	. 94	.077	.054 ; .061	.00011
MI LX	153.9	514	116.65	38	.000	.058	.96	.95	.93	.085	.055 ; .061	0
MI factor loadings and error variance	1556.34	538	142.09	62	.000	.057	.96	.95	.93	.085	.053 ; .060	.00044

ANT

Goodness of fit of the ANT scale second order factor model was acceptable, χ 2SB= 832.59, p ≅ 0.001, df = 246. RMSEA = .045; 90% C.I. for RMSEA = .042 ; .048, SRMR = .069, NNFI = .96, CFI = .97. Factor loadings were

all statistically significant and the majority of them ranged from .36 to .78, with the exception of items 211 and 151, that had the lowest factor loadings (respectively, .19 and .23). Second order Model showed no statistically significant differences, lower BIC, AIC, and ECVI, and also similar fit indices compared to first order model, therefore it was considered as equally acceptable to the first-order Model.

Metric invariance:

Since the second order factor structure revealed better fit to data compared to the first order factor structure, second-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the ANT scale for the overall sample and separated by gender and occupation (second order)

Fit indexes	first	second
x^2/df	847.83/249	832.59/246
RMSEA	.045	.045
CFI	.97	.97
NNFI	.97	.96
GFI	.96	.95
SRMR	.069	.069
90%CI RMSEA	.042 ; 0.049	.042 ; .048
p (RMSEA)	<.001	.99
BIC	1207,74	1214,55
AIC	949.83	940.59
ECVI	.81	.80
	Model 1 vs 2	
$\Delta\chi 2$ (Δdf) (p)	$15{,}24_{(3)}$ (p=.002)	

Table. Test of measurement invariance of the *ANT scales separted* for gender (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	541.66/246					.058	.95	.94	.92	.088	.051 ; .064	.026
Women	637.41/246					.044	.96	.96	.93	.079	.040 ; .048	.99
CI configural invariance	1168.01	486				.049	.96	.95	.92	.088	.045 ; .052	.7
MI LX	1211.05	519	43.04	33	.113	.048	.96	.95	.9	.099	.044 ; .051	.87
MI factor loadings and error variance	1243.73	543	75.72	57	.049	.047	.95	.95	.9	.099	.043 ; .050	.94

Table. Test of measurement invariance of the *ANT scales* for students and non students (second order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	551.67/246					.042	.97	.97	.95	.072	.038 ; .047	1
Women	492.35/246					.045	.97	.96	.93	.082	.039 ; .051	.91
CI configural invariance	1045.96	486				.044	.97	.97	.93	.082	.041 ; .048	1
MI LX	1104.31	519	58.35	33	.004	.044	.97	.97	.91	.090	.040 ; .047	1
MI factor loadings and error variance	1137.07	543	91.11	57	.003	.043	.97	.97	.91	.090	.040 ; .047	1

ALC

Goodness of fit of the ALC scale first order monofactorial model was acceptable, χ 2SB= 169.02, p ≅ 0.001, df = 54, RMSEA = .043; 90% C.I. for RMSEA = .030 ; .050, SRMR = .087, NNFI = .99, CFI = .99. Factor loadings were all statistically significant and the majority of them ranged from .39 to .91.

Metric invariance:

First-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances…..

Table. Test of measurement invariance of the *ALC scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	92.9	54				.043	.99	.99	.98	.078	.016 ; .052	92
Women	163.6	54				.05	.99	.98	.94	.12	.041 ; .059	.5
CI configural invariance	249.54	108				.047	.99	.99	.94	.12	.040 ; .055	72
MI LX	29.66	120	41.12	12	000	.049	.99	.99	.93	.120	.042 ; .056	57
MI factor loadings and error variance	306.23	132	56.69	24	000	.047	.99	.99	.93	.120	.040 ; .054	73

Table. Test of measurement invariance of the *ALC scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	127.17	54				.044	.99	.99	.96	.095	.034 ; .054	.82
No psico	125.52	54				.052	.99	.99	.93	.13	.040 ; .064	.37
CI configural invariance	252.63	108				.048	.99	.99	.93	.13	.040 ; .055	.68
MI LX	287.54	120	34.91	12	.000	.049	.99	.99	.90	.160	.041 ; .056	.61
MI factor loadings and error variance	295.46	132	42.83	24	.010	.046	.99	.99	.90	.160	.039 ; .053	.83

DRG

Goodness of fit of the DRG scale first order monofactorial model was acceptable, χ 2SB= 92.5, p ≅ 0.001, df = 54, RMSEA = .03; 90% C.I. for RMSEA = .019 ; .040, SRMR = .11, NNFI = .99, CFI = 1. Factor loadings were all statistically significant and the majority of them ranged from .49 to .84, with the exception of item 103, that had the lowest factor loading (.23).

Metric invariance:

Firts order factor structure was conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Test of measurement invariance of the *DRG scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	198.74	54				.08	.98	.97	.91	.16	.073 ; .099	0
Women	92.5	54				.03	1	.99	.95	.11	.019 ; .040	1
CI configural invariance	269.52	108				.05	.99	.99	.95	.11	.043 ; .058	.45
MI LX	309.56	120	4.04	12	.000	.052	.99	.99	.93	.120	.045 ; .059	.33
MI factor loadings and error variance	337.47	132	67.95	24	.000	.051	.99	.99	.93	.120	.045 ; .058	.36

Table. Test of measurement invariance of the *DRG scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	103.9	54				.037	1	.99	.97	.093	.026 ; .047	.98
No psico	345.56	54				.11	.96	.95	.73	.27	.095 ; .12	0
CI configural invariance	464.73	108				.075	.98	.98	.73	.27	.068 ; .082	0
MI LX	613.58	120	36.95	12	.000	.084	.97	.97	.67	.300	.077 ; .090	0
MI LX e TD	634.67	132	382.04	24	.000	.08	.97	.97	.67	.300	.074 ; .087	0

SUI

Goodness of fit of the SUI scale first order monofactorial model was acceptable, χ 2SB= 345.17, p ≅ 0.001, df = 54. RMSEA = .068; 90% C.I. for RMSEA = .061; .075 SRMR = .058, NNFI = .99, CFI = .99. Factor loadings were all statistically significant and the majority of them ranged from .70 to .90.

Metric invariance:

First-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Goodness of fit index categories of the SUI scale for the overall sample and separated by gender and occupation

Fit indexes	Overall sample	Men	Women	Psychology student	No psychology student
x^2/df	345.17/54	144.38/54	285.41/54	249.8/54	179.21/54
RMSEA	.068	.066	.072	.072	.069
CFI	.99	.99	.99	.99	.99
NNFI	.99	.99	.99	.99	.99
GFI	.99	.99	.99	.99	.99
SRMR	.058	.069	.065	.06	.081
90%CI RMSEA	.061 ; .075	.048 ; .076	.064 ; .081	.064 ; .082	.058 ; .080
p (RMSEA)	0	.078	0	0	.0028

Table. Test of measurement invariance of the *SUI scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	144.38	54				.066	.99	.99	.99	.069	.048 ; .076	.078
Women	285.41	54				.072	.99	.99	.99	.065	.064 ; .081	0
CI configural invariance	417.83	108				.07	.99	.99	.99	.065	.063 ; .077	0
MI LX	466.88	120	49.05	12	.000	.07	.99	.99	.99	.067	.063 ; .077	0
MI factor loadings and error variance	448.48	132	3.65	24	.164	.064	.99	.99	.99	.067	.057 ; .070	.00026

Table. Test of measurement invariance of the *SUI scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	249.8	54				.072	.99	.99	.99	.06	.064 ; .082	0
No psico	179.21	54				.069	.99	.99	.99	.081	.058 ; .080	.0028
CI configural invariance	409.48	108				.069	.99	.99	.98	.081	.062 ; .076	0
MI LX	426.89	120	17.41	12	.135	.066	.99	.99	.97	.110	.059 ; .073	0
MI factor loadings and error variance	434.69	132	25.21	24	.394	.062	.99	.99	.97	.110	.056 ; .069	.00093

STR

Goodness of fit of the ANT scale first order factor model was mediocre, χ 2SB= 282.47, p ≅ 0.001, df = 20, RMSEA = .11; 90% C.I. for RMSEA = .095; .12, SRMR = .087, NNFI = .83, CFI = .88. Factor loadings were all statistically significant and the majority of them ranged from .33 to .79, with the exception of items 326, 327, and 328, that had the lowest factor loadings (respectively, .27, .19, and .23).

Metric invariance:

First-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, showing better fit indice sas compared to configural invariance model. Therefore, total invariance as regards factor loadings, and error variances, was considered as more suitable compared to configural invariance model.

Table. Test of measurement invariance of the *STR scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	73.72	20				.08	.94	.92	.97	.076	.062 ; .10	.006
Women	228.08	20				.11	.85	.79	.94	.097	.100 ; .13	0
CI configural invariance	286.54	40				.1	.91	.87	.94	.097	.091 ; .11	0
MI LX	338.23	48	51.69	8	.000	.1	.89	.87	.94	.100	.091 ; .11	0
MI factor loadings and error variance	35.01	56	63.47	16	.000	.094	.89	.89	.94	.100	.085 ; .10	0

Table. Test of measurement invariance of the *STR scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	191.32	20				.11	.86	.8	.95	.094	.097 ; .13	0
No psico	104.43	20				.093	.91	.88	.96	.084	.076 ; .11	0
CI configural invariance	29.33	40				.1	.88	.83	.96	.084	.092 ; .11	0
MI LX	319.08	48	28.75	8	.000	.098	.87	.85	.95	.090	.088 ; .11	0
MI factor loadings and error variance	336.99	56	46.66	16	.000	.092	.86	.86	.95	.090	.083 ; .10	0

NON

Goodness of fit of the NON scale second order factor model was mediocre, χ 2SB= 35.04, p ≅ 0.001, df = 20, RMSEA = .12; 90% C.I. for RMSEA = .11; .13, SRMR = .096, NNFI = .88, CFI = .91. Factor loadings were all statistically significant and ranged from .34 to .73.

Metric invariance:

First-order CFAs were conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, showing better fit indices compared to the configural invariance model. Therefore, total invariance as regards factor loadings, and error variances was considered as more suitable compared to configural invariance.

Table. Test of measurement invariance of the *NON scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	111.01	20				.11	.93	.9	.96	.092	.094 ; .13	0
Women	261.19	20				.12	.91	.87	.95	.1	.11 ; .13	0
CI configural invariance	377.99	40				.12	.91	.88	.95	.1	.11 ; .13	0
MI LX	424.4	48	46.41	8	.000	.12	.9	.89	.95	.100	.11 ; .13	0
MI factor loadings and error variance	428.36	56	5.37	16	.000	.11	.9	.9	.95	.100	.097 ; .12	0

Table. Test of measurement invariance of the *NON scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	246.48	20				.13	.91	.88	.95	.11	.11 ; .14	0
No psico	122.71	20				.1	.91	.88	.95	.09	.086 ; .12	0
CI configural invariance	365.17	40				.12	.93	.9	.95	.09	.11 ; .13	0
MI LX	395.55	48	3.38	8	.000	.11	.92	.91	.94	.100	.10 ; .12	0
MI factor loadings and error variance	408.54	56	43.37	16	.000	.10	.92	.92	.94	.100	.094 ; .11	0

RXR

Goodness of fit of the RXR scale first order factor model was acceptable, χ 2SB= 175.52, p ≅ 0.001, df = 20. RMSEA = .081; 90% C.I. for RMSEA = .070 ; .092, SRMR = .066, NNFI = .93, CFI = .95. Factor loadings were all statistically significant and the majority of them ranged from .38 to .73, with the exception of item 282, that had the lowest factor loading (respectively, .20).

Metric invariance:

First-order CFA was conducted also for men, women, psychology students, and non psychology students, considered separatedly. Next, metric invariance was tested, across, respectively, genders and occupation, receiving support to total invariance as regards factor loadings, and error variances.

Table. Test of measurement invariance of the *RXR scales* across genders (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Men	7.74	20				.082	.95	.93	.98	. 066	.060 ; .10	.0094
Women	114.33	20				.076	.95	.93	.98	.066	.063 ; .090	.00078
CI configural invariance	18.86	40				.077	.95	.93	.98	.066	.066 ; .089	0
MI LX	199.99	48	19.13	8	.014	.073	.95	.94	.97	.068	.063 ; .084	.00015
MI factor loadings and error variance	204.08	56	23.22	16	.108	.067	.95	.95	.97	.068	.057 ; .077	.0024

Table. Test of measurement invariance of the *RXR scales* for students and non students (first order)

	X^2	df	ΔX^2	Δdf	p	RMSEA	CFI	NNFI	GFI	SRMR	90%CI RMSEA	P
Psico	151.18	20				.097	.92	.89	.97	.078	.083 ; .11	0
No psico	73.5	20				.062	.97	.96	.98	.058	.043 ; .081	.14
CI configural invariance	205.43	40				.084	.94	.92	.98	.058	.073 ; .095	0
MI LX	23.48	48	25.05	8	.002	.08	.94	.93	.97	.067	.070 ; .091	0
MI factor loadings and error variance	237	56	31.57	16	.011	.074	.94	.94	.97	.067	.064 ; .084	0

Appendix 3 descriptive statistics for PAI scales (study 1)

Histograms & q-qplots for data screening for normality

Blom's normalization was conducted in order to achieve normality, and a T-score transformation was also used in order to make scale scores directly interpretable.

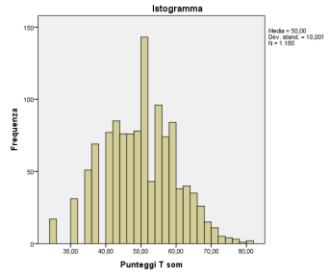
PAI

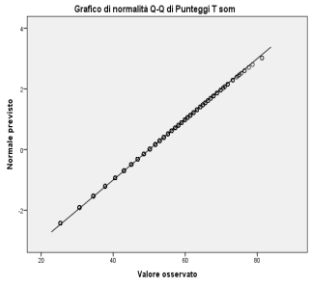
The scale scores for the PAI were, both graphically and statistically, normally distributed (Kolmogorov–Smirnov tests, p=.20 for all scales; Shapiro-Wilk p: SOM=.42, ANX=.90, ARD=.99, DEP=.74, DOM=39, WRM=.56).

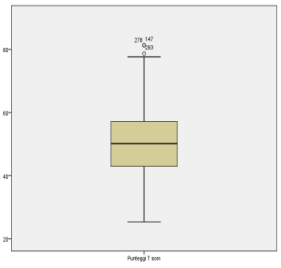
Only AGG scores showed to deviate from a normal distribution, according to Kolmogorov–Smirnov (p<.001) and Shapiro-Wilk (p<.001) tests. However, for few scales, some outliers –positive ones for Anxiety, Depression and Aggression, negative for Dominance, and on both sides for Somatization, Anxiety related disorders, and Warmth-, emerged. The normal Q-Q plots showed a common pattern for all PAI scales, and they all followed the normal distribution well, with non evident tendencies of floor or ceiling effects.

	Skewness	SD	Kurtosis	SD	Kolmogorov-Smirnov	p	Shapiro	P
SOM	04	07	-.14	14	04	<.001	995	01
ANX	01	07	-.05	14	02	15	999	73
ARD	.01	07	-.05	14	03	06	999	56
DEP	02	07	-.08	14	03	01	998	7
MAN	.01	07	-.08	14	02	20	999	61
PAR	01	07	-.05	14	03	04	998	40
SCZ	02	07	-.11	14	03	04	997	02
BOR	.01	07	-.05	14	02	04	999	65
ANT	.01	07	-.05	14	02	01	998	09
ALC	35	07	-.45	14	13	<.001	943	<.001
DRG	66	07	-.37	14	26	<.001	858	<.001
SUI	60	07	-.43	14	23	<.001	881	<.001
STR	04	07	-.13	14	06	<.001	992	<.001
NON	14	07	-.30	14	08	<.001	981	<.001
RXR	-.01	07	-.09	14	05	.01	995	01
DOM	-.01	07	-.05	14	04	.01	997	02
WRM	-.01	07	-.07	14	04	<.001	996	01
AGG	.01	07	-.07	14	03	01	997	06

SOM







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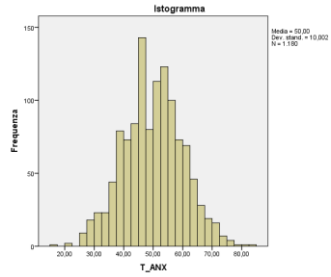

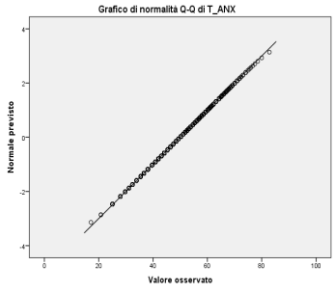

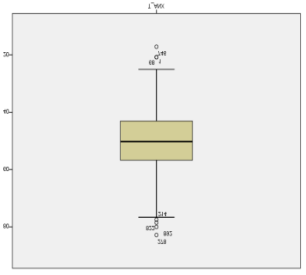

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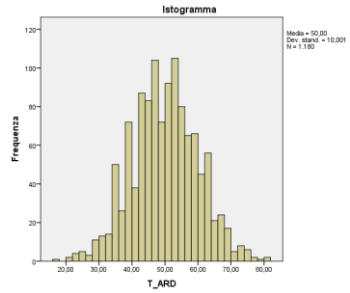

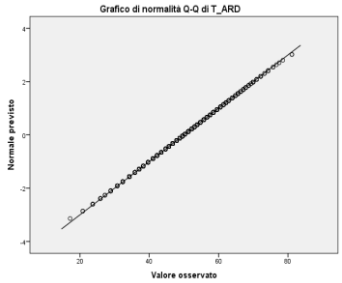

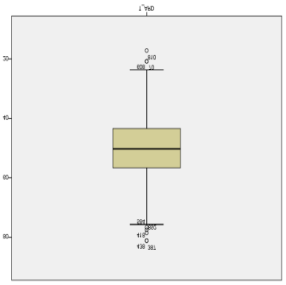

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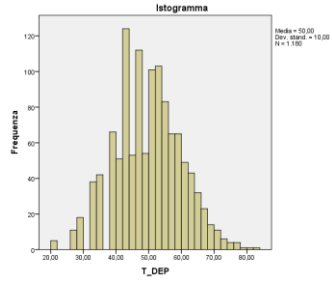

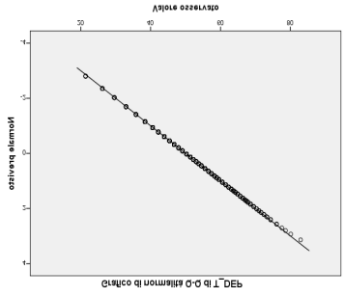

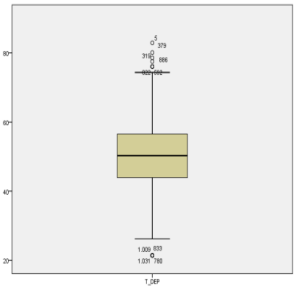

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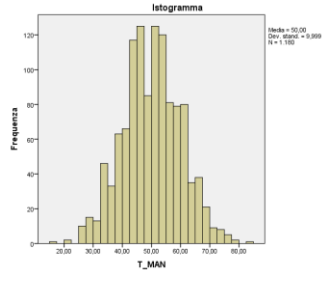

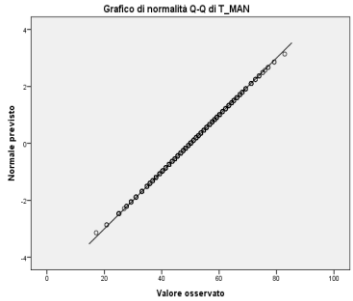

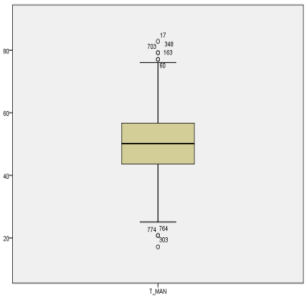

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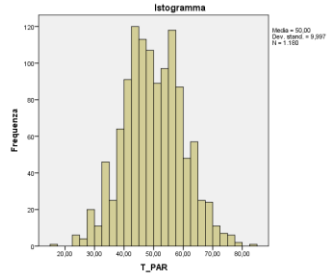
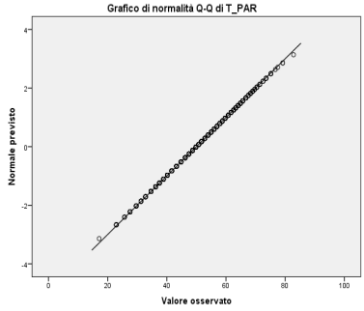
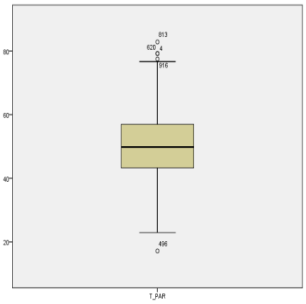






SCZ

Appendix 4 Reliability of PAI (Study 2, N=308)

Following George and Mallery (2003) rules of thumb, Cronbach's alpha coefficient for PAI scales (table PAI) were good for Anxiety, Depression, Warmth. Acceptable internal consistency emerged also for Somatic, Anxiety related disorders, Aggression, Dominance.

Also for SCL-90R (table scl), all scale scores were between good and acceptable, with the exception of Phobic anxiety, that was poor.

STAI trait, ASA; and ECR-R also revealed adeuate internal consistencies (between good and acceptable).

Table PAI. Cronbach's alfa for the overall sample (N=308)

	Overall sample		
PAI	Number of items	α (95%CI)	M interit corr
Somatic	12	.76 (.72-.80)	.14
Anxiety	12	.88 (.86-.90)	.24
Anx Related Disord	12	.75 (.71-.79)	.12
Depression	12	.86 (.84-.88)	.21
Aggression	6	.76 (.72-.80)	.36
Dominanca	12	.76 (.72-.80)	.21
Warmth	12	.81 (.77-.84)	.26
SCL-90R			
SOM	12	.78 (.74-.81)	.23
OBS	10	.78 (.74-.82)	.26
DEP	13	.86 (.83-.88)	.31
ANX	10	.82 (.78-.84)	.31
PHOB	7	.56 (.47-.63)	.17
STAI-Y			
TRAIT	20	.92 (.91-.93)	.34
ASA	27	.89 (.87-.91)	.23
ECR-R			
Anxiety	18	.90 (.88-.92)	.34
Avoidance	18	.92 (.91-.93)	.39

Table xa Cronbach's alfa separated for gender

PAI SCALES	Women *N*=277		Men *N*=81		Overall sample N=1000 (Morey, 2007)[b]	
	α (95%CI)	M interit corr	α (95%CI)	M interit corr	α	M interit corr
Clinical						
Somatic	**.77 (.74-.79)**	**.14**	**.80 (.77-.83)**	**.17**	**.89**	**.92**
Anxiety	**.87 (.85-.88)**	**.24**	**.83 (.80-.85)**	**.20**	**.90**	**94**
Anx Relat	**.75 (.72-.77)**	**.12**	**.73 (.69-.77)**	**.11**	**.76**	**86**
Depress	**.86 (.84-.87)**	**.20**	**.86 (.83-.88)**	**.20**	**.87**	**93**
Mania	.79 (.77-.81)	.14	.80 (.77-.83)	.14	.82	82
Paran	.82 (.80-.84)	.16	.83 (.80-.85)	.17	.85	89
Schizoph	.80 (.78-.82)	.15	.79 (.76-.82)	.14	.81	89
Border	.84 (.82-.85)	.17	.82 (.79-.85)	.17	.87	91
Antisoc	.71 (.69-.74)	.11	.78 (.75-.81)	.14	.84	86
Alcohol	.63 (.60-.67)	.15	.74 (.69-.77)	.23	.84	93

Drug	.53 (.47-.54)	.11	.69 (.64-.73)	.21	.74	89
Treatment						
Aggress Attit	**.83 (.81-.85)**	**.22**	**.82(.79-.84)**	**.21**	**.85**	**90**
Suicid Id	.85(.84-.87)	.40	.83(.81-.86)	.37	.85	93
Stress	.54 (.49-.59)	.14	.61 (.54-.67)	.18	.76	79
Nonsupp	.70 (.66-.73)	.23	.71 (.49-.59)	.24	.72	80
Treat Rej	.69 (.66-.73)	.21	.70 (.66-.75)	.23	.76	80
Interperson						
Domin	**.74 (.71-.76)**	**.19**	**.67 (.61-.71)**	**.15**	**.78**	**82**
Warm	**.77 (.74-.79)**	**.22**	**.79 (.75-.82)**	**.24**	**.79**	**83**

Appendix 5 data exploring for scales (study 2, N=308)

Histograms & q-qplots for data screening for normality

With regards to PAI, ECR, ASA, Blom's normalization, was conducted in order to achieve normality, and a T-score transformation was also used in order to make scale scores directly interpretable. Descriptive statistics were explored as regards these transformed scale scores.

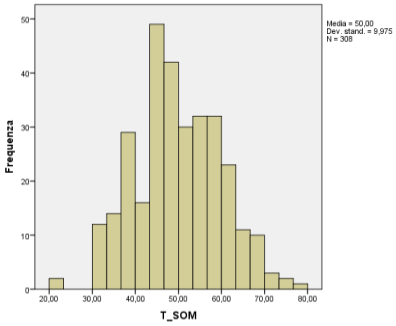
PAI

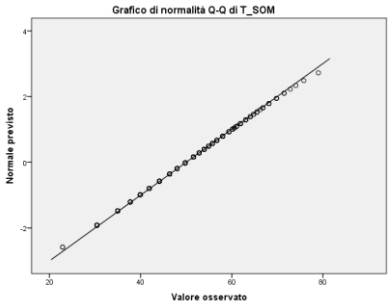
The scale scores for the PAI were, both graphically and statistically, normally distributed (Kolmogorov–Smirnov tests, p=.20 for all scales; Shapiro-Wilk p: SOM=.42, ANX=.90, ARD=.99, DEP=.74, DOM=39, WRM=.56).

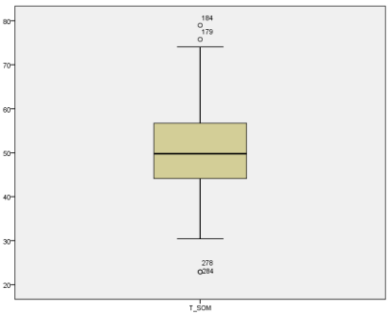
Only AGG scores showed to deviate from a normal distribution, according to Kolmogorov–Smirnov (p<.001) and Shapiro-Wilk (p<.001) tests. However, for few scales, some outliers –positive ones for Anxiety, Depression and Aggression, negative for Dominance, and on both sides for Somatization, Anxiety related disorders, and Warmth-, emerged. The normal Q-Q plots showed a common pattern for all PAI scales, and they all followed the normal distribution well, with non evident tendencies of floor or ceiling effects.

	Skewness	SD	Kurtosis	SD	Kolmogorov-Smirnov	p	Shapiro	p
SOM	.03	.14	-.15	.28	.05	.20	.995	.42
ANX	.02	.14	-.15	.28	.03	.20	.997	90
ARD	.01	.14	-.10	.28	.03	.20	.998	99
DEP	.02	.14	-.13	.28	.04	.20	.996	74
AGG	.08	.14	-.25	.28	.04	<.001	.997	.002
DOM	-.02	.14	-.15	.28	.04	.20	.995	.39
WRM	-.01	.14	-.11	.28	.05	.05	.996	.56

SOM







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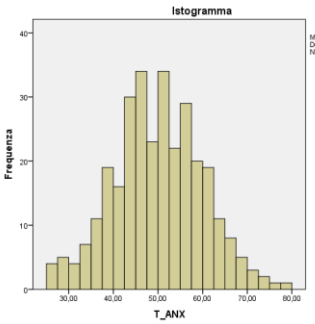

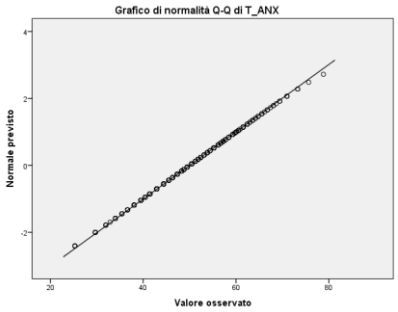

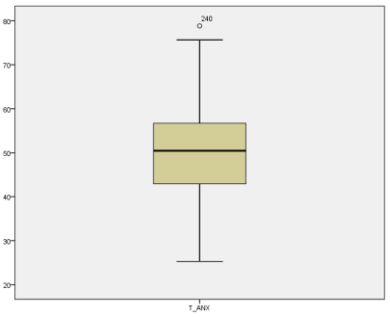

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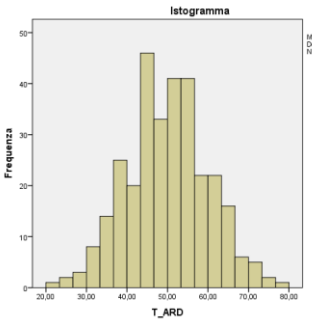

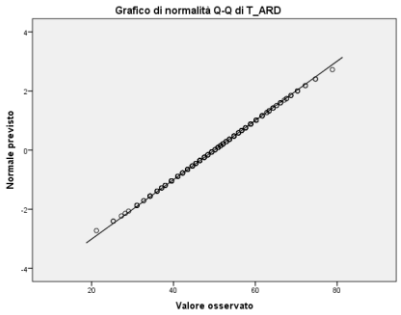

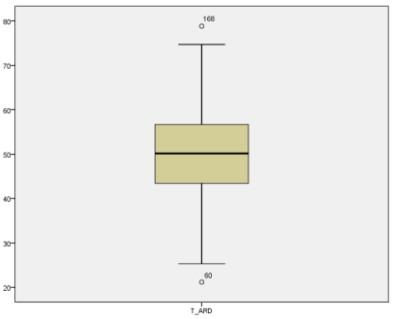

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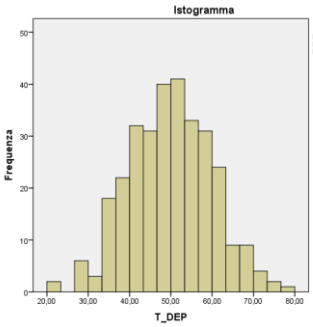
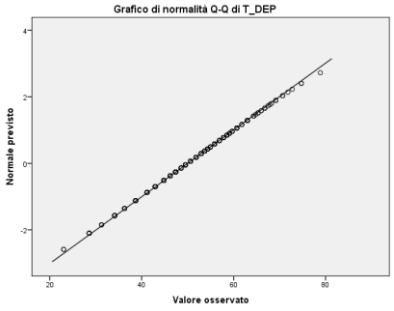
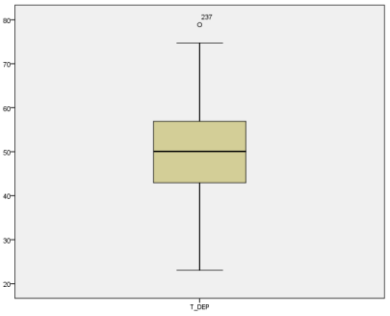
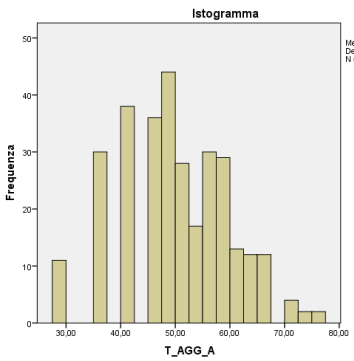
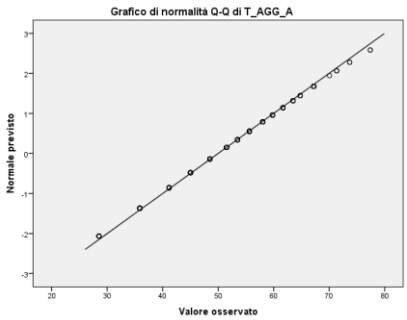


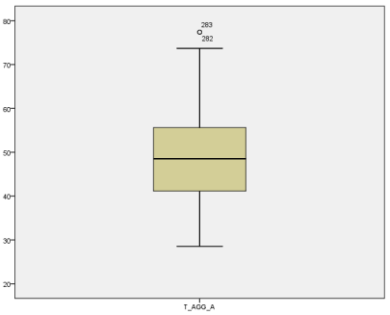




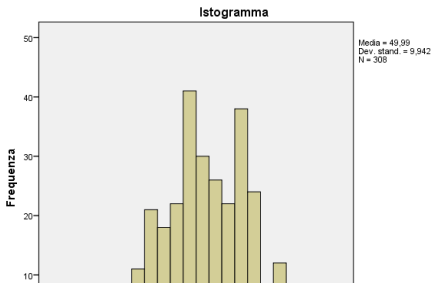
AGG A

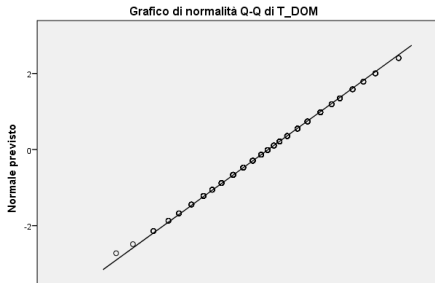


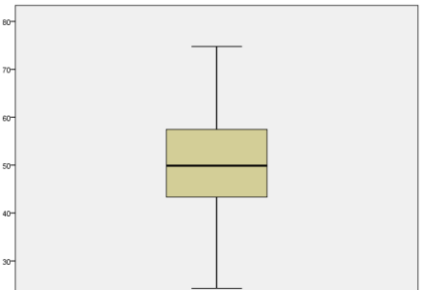




DOM





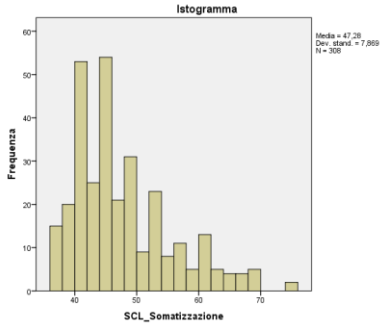


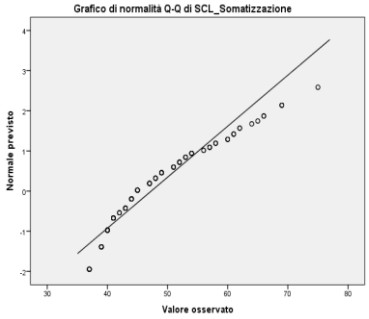
Scl-90r

For scale scores of the SCL90R normality of data distribution was not supported, and a positive skewness for all the considered scales, with some positive outliers, and a moderate kurtosis, in particular for the scales of Depression, Anxiety, and Phobic anxiety, emerged.

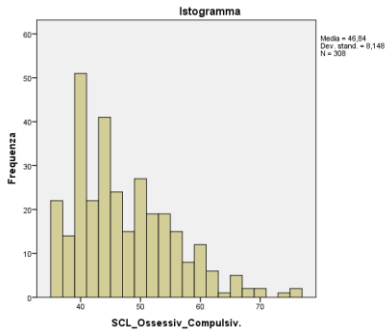
	Skewness	SD	Kurtosis	SD	Kolmogorov-Smirnov	p	Shapiro	p
SOM	1.08	.14	.75	.28	.16	<.001	91	<.001
OBS	.91	.14	.54	.28	12	<.001	93	<.001
DEP	1.12	.14	1.16	.28	13	<.001	91	<.001
ANX	1.40	.14	2.12	.28	16	<.001	87	<.001
PHOB	1.74	.14	2.86	.28	24	<.001	76	<.001

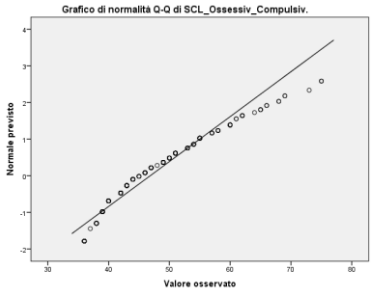
SOM

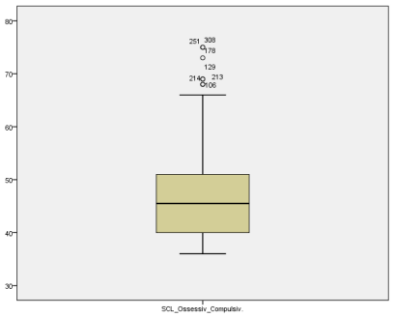




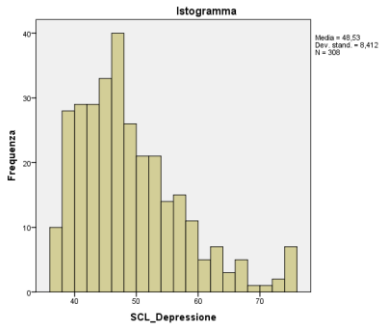
OBS

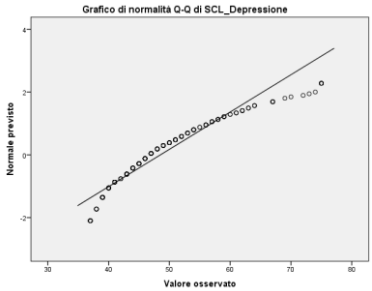


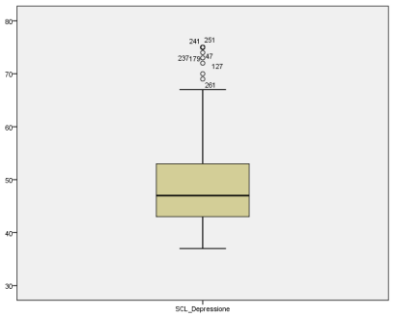




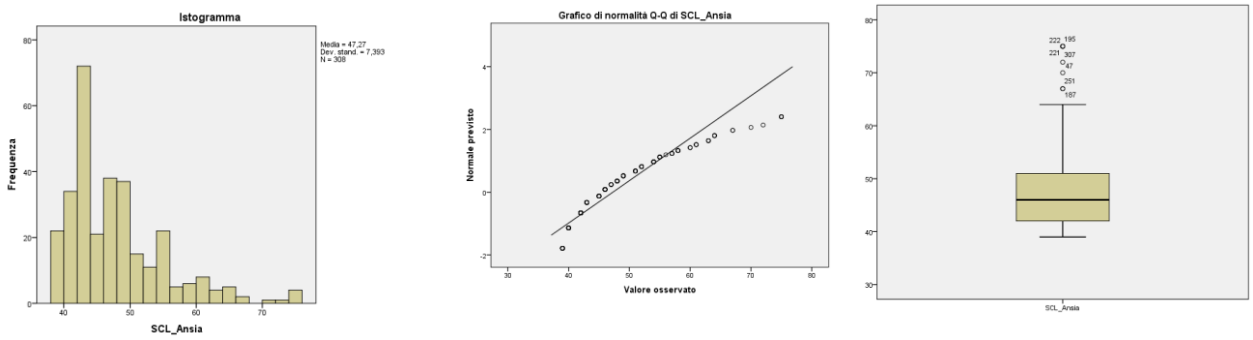
DEP



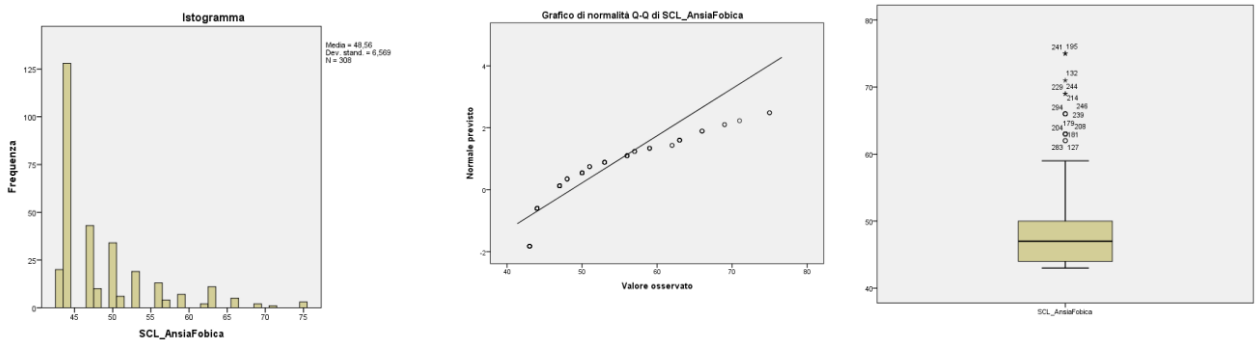




ANX



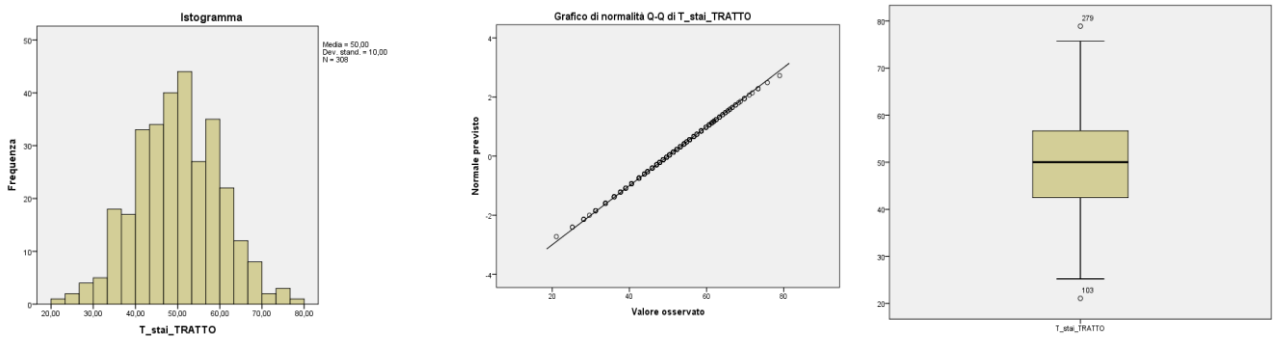
PHOB



STAI

For STAI, transformation provided support for normality of data distribution (Skewness=.01 SD=.14, Kurtosis=-.10 p=.28, Kolmogorov–Smirnov tests=.03 p.20, Shapiro-Wilk=.99 p=.99)

trait

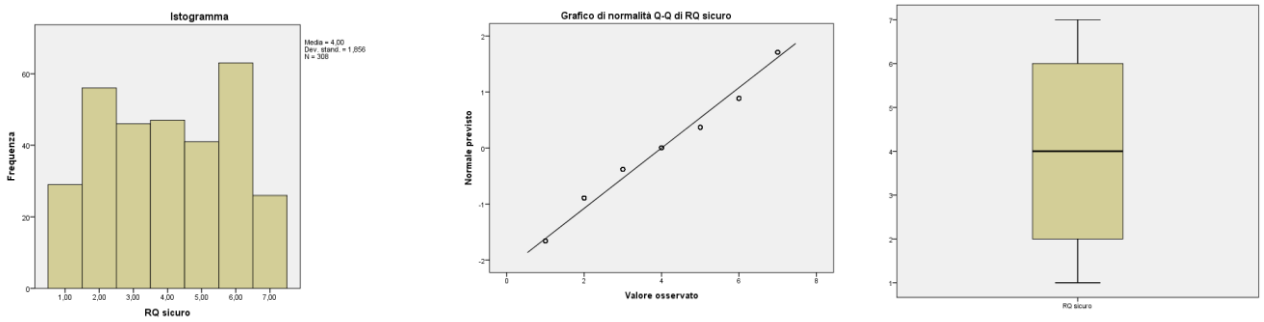


RQ

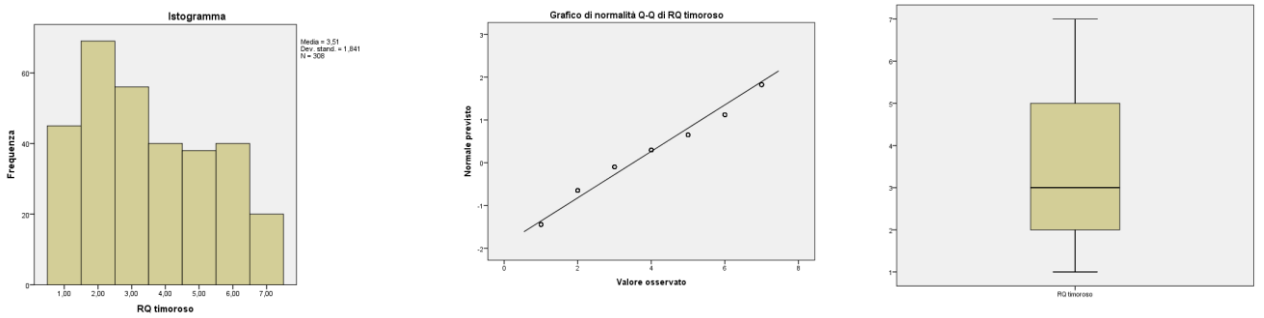
For RQ, that was not submitted to data normalization, non-normal data distribution, with a positive skewness, which was particularly evident for styles C and D, and kurtosis, in particular for A and B styles, emerged.

	Skewness	SD	Kurtosis	SD	Kolmogorov-Smirnov	p	Shapiro	p
Secure A	-.02	.14	-1.23	.28	.15	<.001	.92	<.001
Fearful B	.34	.14	-1.05	.28	.16	<.001	.92	<.001
Preoccupied C	.71	.14	-.62	.28	.22	<.001	.88	<.001
Avoidant D	.82	.14	-.34	.28	.22	<.001	.87	<.001

A



B



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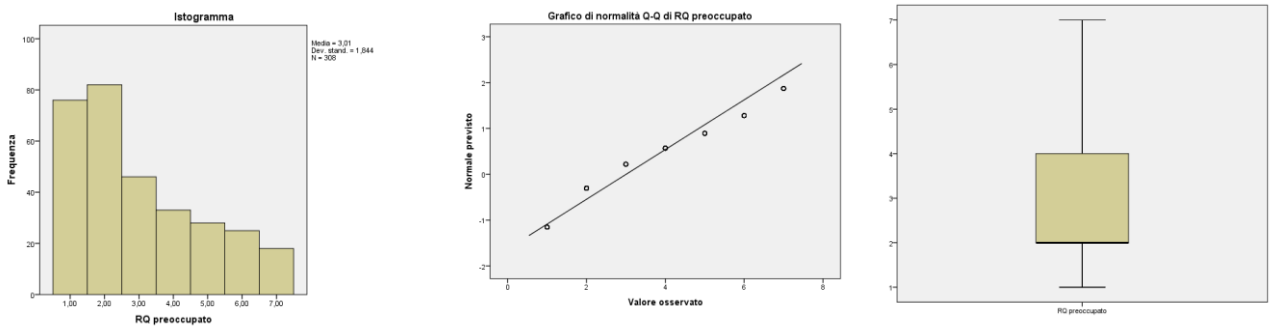
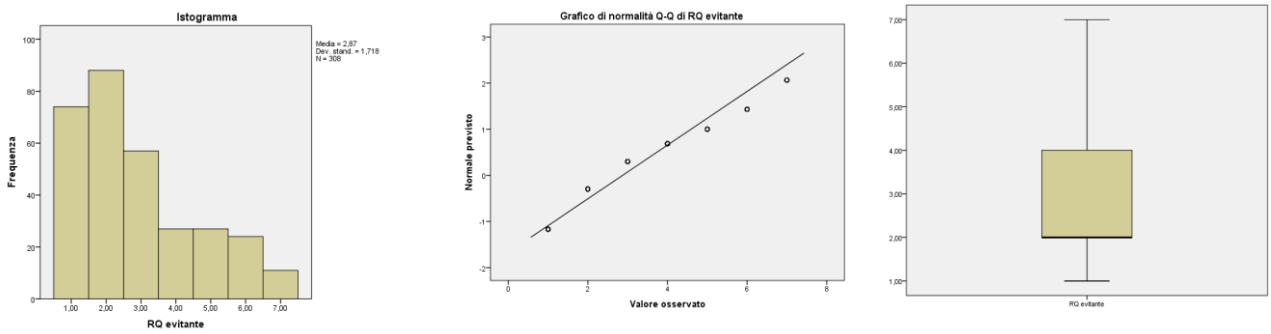


D

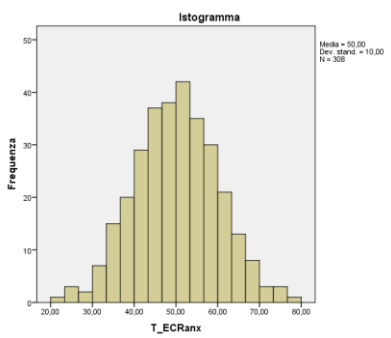


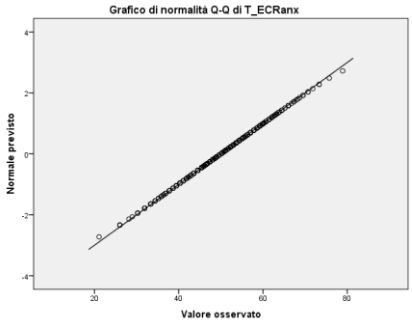
Ecr-r

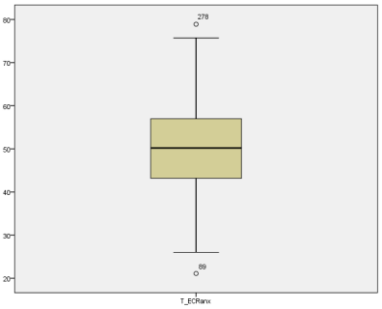
Also for ECR-R, transformation provided support for normality of data distribution, Although few outliers remained present

	Skewness	SD	Kurtosis	SD	Kolmogorov-Smirnov	p	Shapiro	p
Anxiety	.004	.14	-.10	.28	.02	.20	.99	.99
Avoidance	.04	.14	-.18	.28	.03	.20	.99	.63

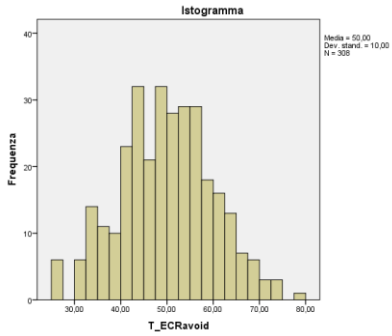
ANX

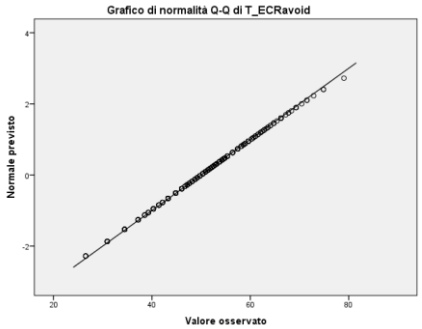


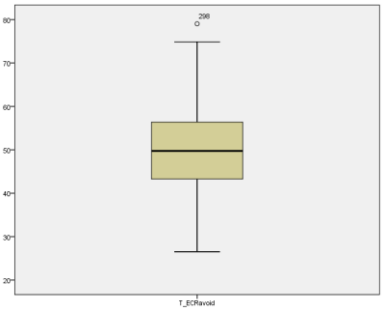




AVOID

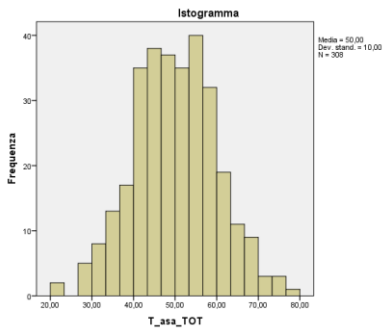


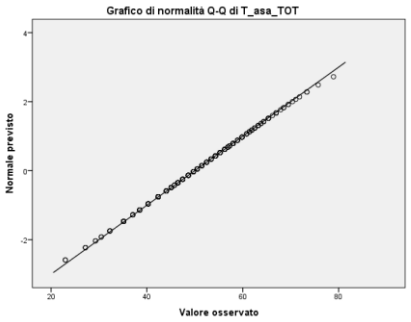


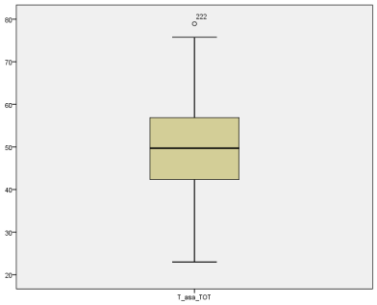


ASA

For ASA, transformation provided support for normality of data distribution (Skewness=.01 SD=.14, Kurtosis=-.12 p=.28, Kolmogorov–Smirnov tests=.04 p.20, Shapiro-Wilk=.99 p=.94)







Appendix 6 COMPARISON WITH NORMATIVE DATA

Raw scores of the PAI were transformed in T-scores, that were calculated basing on Italian norms (Zennaro et al., in preparation). Participants with Validity scale scores that were higher than established cutoffs were excluded from the sample.

Secondly, PAI scores from the present sample were compared to those of study 1, in order to see if any differences emerged or, conversely, if the present study sample was considerable as homogeneous and representative of the larger sample investigated in study 1. Following Morey's recommendations as regards interpretation of T score differences (>4 T score units; Morey, 2007), no differences emerged **comparing scores from the present sample and those revealed by participants of study 1**. Similar results emerged at the comparison between participants from the present study and those from study 1, considering separatedly specifical subsamples of, respectively, men (n=81), women (n=227), psychology students (n=237), and non psychology students (n=71), with those of study 1.

Finally, considering variables of interest in the present study (highlighted in bold in the table above), **mean scores comparisons between subgroups** of the present sample were carried out. Women revealed higher scores in Anxiety and in Anxiety related disorders, compared to men (>4 T score units; Morey, 2007). Conversely, in line with results emerged in study 1, no significant differences emerged comparing Psychology students and Non psychology students. Although slight differences emerged between psychology students and non psychology students, respectively in Depression and in Dominance scales, these differences were not considered relevant, following Morey's rules of thumb (Morey, 2007). Therefore, since groups of Psychology students and Non psychology students did not reveal significant differences between each other in variables of particular interest in the present work, they were considered as similar. Hence, in the present study, no other comparisons (t-test comparisons, multigroup invariance, ecc.) were carried out between the two groups of psychology students and non psychology students.

At the individual level, following Morey's (2007) suggestions about scores indicating symptoms of clinical significance, some participants, for the most part women, reported scores that were higher than expected (M>70), namely for Somatization, Anxiety, Anxiety related disorders, Depression, Aggression, and Warmth scales.

Table b. Descriptive statistics for PAI scale T-scores, for the overall sample and separated for groups (men, women, psychology students, and non psychology students) (N=308)

	Overall sample (N=308)				Men (n=81)				Women (n=227)				Psico (n=237)				No psico (n=71)			
	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS	Min	Max*	M	DS
SOM	**37**	**82(6)**	**49.42**	**8.27**	**37**	**72**	**47.84**	**8.69**	**38**	**82(5)**	**49.99**	**8.06**	**38**	**82(5)**	**49.99**	**8.23**	**37**	**71(1)**	**47.54**	**8.17**
ANX	**34**	**84(25)**	**53.15**	**10.94**	**34**	**79(3)**	**48.44**	**9.93**	**34**	**84(22)**	**54.83**	**10.81**	**34**	**84(20)**	**53.86**	**10.83**	**34**	**79(5)**	**50.77**	**11.07**
ARD	**30**	**78(11)**	**51.58**	**9.88**	**31**	**71(1)**	**47.63**	**9.37**	**30**	**78(10)**	**52.99**	**9.69**	**30**	**78(9)**	**51.88**	**9.78**	**31**	**76(2)**	**50.59**	**10.19**
DEP	**35**	**81(10)**	**49.29**	**9.26**	**35**	**67**	**47.10**	**7.35**	**35**	**81(10)**	**50.07**	**9.75**	**36**	**81(10)**	**50.11**	**9.60**	**35**	**68**	**46.56**	**7.46**
MAN	32	78(1)	52.23	9.70	32	78(3)	54.40	9.79	32	74(4)	51.46	9.57	32	78(3)	51.42	9.59	35	74(4)	54.94	9.63
PAR	27	89(7)	49.88	9.27	31	74(2)	49.06	8.93	27	89(5)	50.17	9.39	27	89(6)	49.57	9.36	35	72(1)	50.89	8.96
SCZ	34	91(12)	50.72	9.94	35	91(1)	50.79	9.52	34	90(11)	50.70	10.10	34	90(10)	50.81	9.87	35	91(2)	50.42	10.22
BOR	33	85(28)	55.00	10.03	35	81(3)	52.19	9.16	33	85(25)	56.01	10.16	37	85(27)	56.28	9.95	33	81(1)	50.75	9.16
ANT	34	87(18)	51.21	9.83	38	87(7)	55.07	10.11	34	85(11)	49.83	9.37	34	85(14)	51.06	9.78	37	87(4)	51.72	10.03
ALC	41	111(18)	50.51	9.96	41	84(8)	53.46	9.63	41	111(10)	49.46	9.89	41	111(17)	50.84	10.47	41	84(1)	49.44	8.02
DRG	42	112(16)	49.53	10.03	42	94(8)	52.10	11.83	42	112(8)	48.61	9.17	42	112(14)	49.76	10.36	42	84(2)	48.75	8.89
AGG	**33**	**86(20)**	**51.01**	**10.34**	**34**	**80(6)**	**50.33**	**10.42**	**33**	**86(14)**	**51.26**	**10.32**	**33**	**86(15)**	**50.91**	**10.73**	**38**	**77(5)**	**51.35**	**8.99**
SUI	44	122(22)	51.49	12.27	44	98(6)	50.95	10.14	44	122(16)	51.69	12.96	44	122(22)	52.94	13.49	44	62	46.68	3.98
STR	35	83(8)	51.57	8.70	35	76(2)	50.48	8.75	35	83(6)	51.96	8.66	35	83(7)	52.05	9.01	35	71(1)	49.94	7.39
NON	36	86(13)	50.47	9.80	36	86(4)	51.19	9.28	36	86(9)	50.22	9.99	36	86(13)	51.32	10.26	36	66	47.65	7.48
RXR	18	65	45.06	9.75	27	65	47.52	9.12	18	65	44.19	9.83	18	65	43.32	9.40	27	65	50.89	8.61
DOM	**18**	**70**	**48.31**	**10.60**	**18**	**70**	**49.21**	**11.10**	**20**	**70**	**47.99**	**10.42**	**18**	**70**	**47.49**	**10.65**	**24**	**70**	**51.06**	**10.01**
WRM	**15**	**71(2)**	**49.38**	**10.36**	**15**	**71(2)**	**50.02**	**10.98**	**19**	**69**	**49.15**	**10.15**	**19**	**71(1)**	**49.19**	**10.52**	**15**	**71(1)**	**50.01**	**9.87**

*in parentheses. Number of participants with scores >clinical cutoff (Morey, 2007)

For the SCL90-R (**table c**), which scores were T-transformed following Italian norms, results were in line with normative Italian data. Just few participants reported scores higher than clinical cutoff (Sarno et al., 2011), indicating the experience of some distress related to psychological symptoms.

Table c. Descriptive statistics for SCL-90R scale T-scores, for the overall sample and separated for groups (men, women, psychology students, and non psychology students)

	Overall sample (N=308)			
	Min	Max*	M	DS
SOM	37	75(11)	47.28	7.87
OBS COMP	36	75(9)	46.84	8.15
INTERP SENS	38	75(17)	49.29	8.91
DEP	37	75(16)	48.53	8.41
ANX	39	75(8)	47.27	7.39
HOST	39	75(5)	46.74	6.88
PHOB	43	75(11)	48.56	6.57
PAR	36	75(16)	47.24	8.93
PSYCH	40	75(12)	48.31	7.06
GSI	36	75(9)	47.18	7.59
POSIT TOT	28	72(6)	47.09	9.23
POSIT DISTRESS	0	75(11)	48.47	8.61

Non relevant differences emerged for Trait anxiety assessed by STAI-Y (table d). therefore, participants revealed scores in line with italian normative data.

Table d. STAI-Y scale scores: t-test comparison with scores reported by Pedrabissi et al. (1989)

STAI-Y	Present study (N=308)		Pedrabissi et al.(1989) (N=1729)		t	p	df	Diff gr1-gr2	SE diff	95%CI diff		Cohen's d
	Men (n=81)		Men (n=913)									
	M	DS	M	DS								
State	33.59	8.07	36,27	9,54	2.45	.01	992	-2.68	1.09	-4.83	-0.53	.16
Trait	37.05	8.74	37,19	9,58	.13	.90	992	-.14	1.10	-2.31	2.03	.01
	Women (n=227)		Women (n=816)									
	M	DS	M	DS	t	P	df	Diff gr1-gr2	SE diff	95%CI diff		d Cohen
State	35.86	10.52	39,62	10,64	4.72	<.001	1041	-3.76	.80	-5.32	-2.20	.29
Trait	40.66	10.69	42,06	9,67	1.88	.06	1041	-1.4	.74	-2.86	.06	.12

Medium differences emerged when comparing scores of adult separation anxiety (ASA, table f), where participants showed higher levels of Separation anxiety, compared to those emerged in a study by Dell'Osso (2011) on an Italian sample of university students.

Table f. ASA total score: t-test comparison with ASA scores reported by Dell'Osso (2011) in a sample of university students

ASA	**Present study (N=308)**	**Studenti (Dell'Osso, 2011) (N= 50)**	**t**	**df**	**p**	**Diff gr1-gr2**	**SE diff**	**95%CI diff**		**Cohen's d**
								Inf	Sup	

	M	DS	M	DS								
Overall sample	20.09	10.88	12.80	8.98	4.49	356	<.001	7.29	1.62	4.10	10.48	.48

With regard to attachment, for the first part of the RQ (table g) the present sample revealed, respectively, lower frequency of Secure and higher frequency of Preoccupied attachment style, compared to a study on young adults by Stein et al. (2002). For the second part of the RQ (table h), Stein did not report data about mean scores revealed in his study, then, mean scores of the present sample were compared to those reported in a sample of university students by Zvelc (2010). Also in this case, higher differences with lower scores in secure attachment, and higher ones in Preoccupied attachment style for participants of the present study, emerged.

Table g. RQ scores for the first choice part: chi-square statistic for comparison with scores reported by Stein et al. (2002), in a sample of young adults

RQ	**Present study (N=308)**	**Stein et al. 2002 (N=115)**	**Expected Num**	**Resid**	
Secure A	125 (40.6%)	58 (51%)	157	-.32	
Fearful B	83 (26.9%)	32 (28%)	86	-3	
Preoccupied C	60 (19.5%)	9 (8%)	25	35	
Avoidant D	40 (13.0%)	15 (13%)	40	0	
Total	308	115			$X^2(3)= 55.63.\ p<.001$

Table h. RQ scores for the second part (7-point scale): t-test statistic for comparison with scores reported by Žvelc (2010), in a sample of university students

RQ	**Present study (N=308)**		**Žvelc, 2010 (N=176)**		t	p	df	Diff gr1-gr2	SE diff	95%CI diff		Cohen's d
	M	SD	M	SD								
Secure A	4.00	1.86	4.69	1.70	4.05	<.001	482	-.69	.17	-1.02	-.35	.37
Fearful B	3.50	1.84	3.82	1.79	1.86	.06	482	-.32	.17	-.66	.02	.17
Preoccupied C	3.00	1.84	3.22	1.76	4.79	<.001	482	-.82	.17	-1.16	-.48	.44
Avoidant D	2.87	1.72	2.95	1.70	.49	.62	482	-.08	.16	-.40	.24	.04

Finally, with regards to romantic attachment style (table i), large size differences emerged in Avoidant attachment style, with the present sample showing lower scores compared to the sample of university students by Sibley et al. (Sibley et al., 2005).

Table i. ECR-R scores for the second part: chi-square statistic for comparison with scores reported by Sibley et al. (2005), in a sample of university students

Ecr-r	Present study (N=308)		Sibley et al., 2005 (N=300)		t	p	df	Diff gr1-gr2	SE diff	95%CI diff		Cohen's d
	M	DS	M	DS								
Anxiety	2.06	1.08	2.16	1.08	1.14	.25	606	-.10	.09	-.27	.07	.09

Avoidance	1.24	.94	2.06	1.13	9.74	<.001	606	-.82	.08	-.96	-.65	.79