

THE ADAPTATION STUDY OF THE
BRIEF FORM OF THE AFFECTIVE NEUROSCIENCE PERSONALITY SCALES
(BANPS) TO TURKISH



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BY

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PLAGIARISM

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.



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ABSTRACT

The aim of this study is to adapt Brief Form of Affective Neuroscience Scales (BANPS) into Turkish culture and examine its reliability and validity. BANPS was originally developed by Barrett and colleagues (2013) to shorten and improve the psychometric properties of ANPS (Davis et al., 20013). The BANPS consisted of 33 items and six scales which aim to assess personality traits on the basis of six affective systems (SEEK, PLAY, CARE, FEAR, ANGER, SADNESS). The reliability and validity analyses of Turkish BANPS were conducted with three groups of participants, including all participants (N= 873), young adults (N= 296), and adults (N= 577). The original methodology utilized in the construction of BANPS and Turkish ANPS (Özkarar-Gradwohl et al., 2014) was followed both in reliability and validity analyses. The results implicated that the gender and age of the participants are important variables in BANPS scores. The Cronbach alpha values both for total and individual scales of BANPS indicated that the Turkish BANPS has good internal reliability. The results of overall reliability and validity analyses demonstrated that Turkish BANPS is a reliable and valid tool to utilize in assessing individual differences in primary affective systems in the Turkish non-clinical young adult and adult populations. The limitations and suggestions for future studies are also discussed as well as the findings of the study.

Keywords: personality, scale adaptation, affective neuroscience, brief-ANPS, ANPS

ÖZET

Bu çalışmanın amacı Affektif Sinirbilim Ölçeğinin Kısa Formunun Türk kültürüne adapte edilmesi ve güvenilirlik ve geçerliğinin belirlenmesidir. ASKÖ-Kısa Formu, Barrett ve arkadaşları (2013) tarafından, ASKÖ ölçeğinin kısa formunu oluşturmak ve ölçeğin psikometrik özelliklerini iyileştirmek amacıyla geliştirilmiştir. ASKÖ-Kısa Formu, 33 maddeden oluşmakta ve beyindeki altı temel afektif sistemin (Arayış, Oyun, Sevgi, Korku, Öfke, Üzüntü) aktivitesine dayanarak kişilik özelliklerinin ölçülmesini amaçlamaktadır. ASKÖ- Kısa Formunun Türkçe versiyonunun güvenilirlik ve geçerlik çalışmaları, tüm katılımcılar (873 kişi), genç yetişkinler (296 kişi) ve yetişkinler (577 kişi) olmak üzere, üç alt grup ile yürütülmüştür. Güvenirlik ve geçerlik çalışmaları, ASKÖ-Kısa Formu'nun orijinal çalışmasında ve ASKÖ'nün Türkçe adaptasyon makalesinde (Özkarar-Gradwohl et al., 2014) kullanılan metodoloji izlenerek gerçekleştirilmiştir. Çalışmanın sonuçları, katılımcıların cinsiyetlerinin ve yaşlarının ASKÖ-Kısa Formu'ndan aldıkları puanları ile anlamlı derecede ilişkili olduğunu göstermiştir. ASKÖ-Kısa Formunun hem ölçeğin tamamı için hem de bağımsız ölçekler için hesaplanan iç tutarlılık değerleri, ölçeğin Türkçe versiyonunun iç tutarlılığının iyi olduğunu ortaya koymuştur. Bu çalışma kapsamında gerçekleştirilen güvenilirlik ve geçerlik analizlerinin tümü birlikte değerlendirildiğinde, ASKÖ-Kısa Formunun Türkçe versiyonunun temel affektif sistemlerdeki bireysel farklılıkları ölçmede kullanılabilecek güvenli ve geçerli bir ölçek olduğu görülmektedir. Çalışmanın bulguları, sınırlılıkları ve gelecek çalışmalar için öneriler tartışılmıştır.

Anahtar kelimeler: kişilik, ölçek adaptasyonu, affektif sinirbilim, kısa-ASKÖ, ASKÖ



To mom,

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1. INTRODUCTION

1.1. Affective Neuroscience

Influenced substantially by Darwin's (1872/2015), Cannon's (1927), and MacLeans' (1949) views, Panksepp founded the field of "affective neuroscience" in 1998. He defined the term "affective neuroscience" as an umbrella term for broad approaches to studying neural mechanisms that underlie emotional states and behaviors within an integrative neuroscience framework (Panksepp, 2016).

Panksepp presented the nomenclature named "The Three-Level Nested BrainMind Hierarchy (NBH)" to demonstrate the regulation of emotionality in the mammalian brain. In this nomenclature, the term "hierarchy" refers to the way the brain is organized; that is, evolutionarily more ancient systems are located in ventral and caudal areas, while areas that evolved more recently are built into lateral and rostral regions of the brain (Panksepp, 2011; Watt & Panksepp, 2016). This nested hierarchy between brain regions provides two-way, bottom-up and top-down control and circular communications among all brain levels (Panksepp & Biven, 2012; Watt & Panksepp, 2016).

Three levels of hierarchy consist of *primary processes*; which reflect the emotions and affects that originate from the subcortical areas of the brain; *secondary processes*; which present emotional learning, and *tertiary processes*; which correspond to higher neocortical functions such as cognition, thoughts, and ruminations regarding emotionally charged issues. The term "BrainMind" refers to the functions from primary affective processes (affects) to tertiary processes (cognitions) (bottom-up controls), and likewise, "MindBrain" refers to the processes from higher cortical functions to primary processes (top-down regulations) (Cromwell &

Panksepp, 2011; Panksepp, 2008a). The double capitalization and written without space terms reflect the adopted monistic view that the accepted mind and brain are not two diverse entities, but they are unified one and same organ without boundaries with the body (Panksepp, 2005; Panksepp & Biven, 2012).

The basic emotions are the results of arousal of subcortical ancient affective (or emotional) systems. There are at least seven scientifically-proven primary emotional systems. Four of them evoke positive/rewarding valence, namely, SEEKING (Enthusiasm), CARE (Nurturance), PLAY (Social Joy), and LUST (Eroticism) systems whereas three denote negative/punishing valence, including FEAR(Anxiety), RAGE (Anger) and PANIC/GRIEF/ (Sadness) systems (Davis & Panksepp, 2018; Panksepp, 1998; Panksepp, 2011; Panksepp, 2016; Panksepp & Biven, 2012). These systems are shown to be homologous across all mammalian species that have been tested (Panksepp, 2011).

Panksepp (1998) proposed utilizing the capitalized nomenclature of the basic emotional systems to avoid confusion with their usage in colloquial speech and point out that these are scientific terms that represent primary affective neural systems in the brain.

Throughout the evolution process, these affective systems are adapted to increase the likelihood organism's survival. Therefore, the central role of a primal affective system of the brain is to respond to and coordinate various kinds of behavioral and bodily processes (Davis & Panksepp, 2018; Panksepp, 1998).

Primary affective systems are innate capacities of the mammalian brain; thus, none of the basic emotions created by these systems are learned, yet they can be influenced by and regulate learning processes. Additionally, for human beings, the primary process affects and tertiary process cognitions are mostly experienced as

completely intertwined experiences. All basic emotions, however, are "objectless" in their purest form (Davis & Montag, 2019; Panksepp, 2005; Panksepp & Biven, 2012).

As each of the emotional systems has reciprocal interactions with higher and lower brain mechanisms, they also interact with other primary affective circuits. In addition, all of these seven systems are modulated by non-specific brain regulators such as acetylcholine, norepinephrine, and serotonin (Panksepp & Biven, 2012).

The activation of these emotional systems is followed by subjective feeling tones depending on which system has been aroused. Furthermore, when a specific affective system activation maintains at a low level for a prolonged period of time, besides the emergence of emotions specific to that system, personality traits such as different inclinations to be cheerful, angry, fearful, or sad are formed. In this sense, it was argued that examining primal emotional systems in the brain provides essential information about a concept that has long been interested and traditionally called "human nature" (Panksepp & Biven, 2012).

1.1.1. Primary affective systems of the mammalian brain

1.1.1.1. The SEEKING system

Panksepp (1998; 2004) asserted that the mammalian brain has a "foraging/ exploration/ investigation/ curiosity/ interest/ expectancy/ SEEKING" system (shortly the SEEKING system) which gives the organisms the impulse to explore their environments energetically. Historically, this primary neural system has been named differently in the scientific literature, from "drive" (in psychoanalytic theory) to "incentive salience" (which is a near-synonym of the term "secondary reinforcement" in modern behavioral neuroscience) (Wright & Panksepp, 2012).

As with any emotional system, arousal of the SEEKING system is accompanied by a distinctive feeling tone which has been described as "a positive

feeling of anticipatory eagerness" or "engaged curiosity" (Panksepp, 1998; Panksepp & Biven, 2012, p. 217). This positive feeling is a kind of excited anticipation when one is looking forward to obtaining the desired outcome. The activation of this system generates a "want-to-do and can-do" feeling. This affect has been thought of as closely relevant to the Freudian concept of the multi-purpose libidinal drive (Solms & Zellner, 2012).

All positive (PLAY, CARE, LUST, SEEKING) and negative (FEAR, PANIC, RAGE) primal emotions are connected with the SEEKING system (Wright & Panksepp, 2012). It is clear that the SEEKING system shows organisms how to obtain all kinds of different resources present in their environment, "from nuts to knowledge," in Jaak Panksepp's words (Panksepp & Biven, 2012, p. 103). Therefore, SEEKING system is accepted as the most general-purpose primary affective system in the brain. This system incorporates all sorts of things that must be done by the organism in order to survive (Wright & Panksepp, 2012). It gives organisms the impulse to become actively engaged with the world to find available resources and extract meaning from various circumstances. In that way, it also advances learning processes (Panksepp 1998; Panksepp & Biven, 2012) as well as personal growth (Kashdan, 2012).

The neural networks of the SEEKING system arise from the midbrain ventral tegmental area (VTA) and run through the medial forebrain bundle and lateral hypothalamus (MFB-LH) into the nucleus accumbens and also includes the various parts of the medial prefrontal cortex (Panksepp & Biven, 2012; Wright & Panksepp, 2012). Neurochemically, this system is mainly modulated by dopamine, although other neurotransmitters (such as GABA, norepinephrine, and serotonin) and

neuropeptides like orexin, are also involved (Panksepp, 1998; Panksepp & Biven, 2012; Wright & Panksepp, 2012).

Including human beings, the presence of a well-functioning SEEKING system is vital for the psychological and psychical health of all the mammals. Clinically, the imbalanced or over-activation of the SEEKING system has been implicated in a variety of psychological problems (Panksepp & Biven, 2012). For example, when this system is under-stimulated due to a deficiency of dopamine, depressive feelings that are characterized by hopelessness and lassitude may arise (Nestler & Carlezon, 2006; Panksepp & Biven, 2012; Wright & Panksepp, 2012; Zellner et al., 2011). On the contrary, this system's overarousal was found to be related to people's inclinations to claim causations between two events when they are only correlated in reality; most superstitions are probably formed due to overarousal of the SEEKING system (Panksepp & Biven, 2012). At the most extreme, overactivation of the SEEKING system with excessive dopamine, schizophrenic symptoms, mania, and psychotic delusions can be observed (Grace, 1991). Also, in the case of the SEEKING system's overstimulation in less intensity, some ritualistic, compulsive behaviors (which are not linked to any apparent purpose) can emerge (Panksepp & Biven, 2012; Wright & Panksepp, 2012). Furthermore, a possible relationship between the overactivation of this system and the clinical condition of "compulsive hoarding" has been stated (Wright & Panksepp, 2012).

1.1.1.2. The RAGE system

The RAGE system is an ancestral heritage that helps the survival and protection of the organisms, as it still does (Panksepp & Biven, 2012). The activation of this system is marked by feeling of "anger" in people as well as animals (Panksepp, 1971). Although psychology literature offers abundant sources about the leading

factors and causes of anger, the precise definition of "rage" or "anger" can hardly be found in modern psychology or brain research literature (Panksepp, 1998). However, the feeling generated by the RAGE system might correspond to Freud's (1920/1955) conceptualization of the "death instinct," and the Kleinian concept of "envy" offers a valuable source for understanding RAGE and related acts (Klein 1957, as cited in, Giacolini & Sabatello, 2019).

Animal research indicated the presence of three separate forms of aggression: *predatory aggression*, *intermale aggression*, and the *affective attack* or the *RAGE response* (Panksepp, 1998; Panksepp & Zellner, 2004). Specific primary emotional systems energize different types of aggressive responses in the brain. Yet, only the RAGE circuit elicits the third form of aggression, namely RAGE response, in all mammals (Panksepp & Biven, 2012).

A significant number of situations, including homeostatic imbalances, restriction of bodily movements, irritations in the body, and feelings of frustration arising from the conditions such as withdrawal of the expected rewards, can easily activate the RAGE system (Mancia & Zanchetti, 1981; Panksepp & Biven, 2012).

The trajectory of the RAGE system runs from the medial areas of the amygdala through the pathway of stria terminalis down to the medial zone of the hypothalamus and the periaqueductal gray (PAG) of the midbrain (Panksepp, 1998; Panksepp & Biven, 2012; Siegel, 2004).

This system is closely intertwined with the FEAR system. Anatomically, these two systems are interconnected at the hypothalamus, PAG, and amygdala, where the FEAR and RAGE system trajectories separate and generate two distinct circuits (Giacolini & Sabatello, 2019; Panksepp & Biven, 2012). Panksepp (1998) stated that this interconnectedness between two systems serves the evolution by working

reciprocally. Namely, in a competition, fear takes a role in initiating the fleeing response and alleviating the opponents' rageful acts, whereas rageful behaviors serve the purpose of frightening the competitors and dominating them (Giacolini & Sabatello, 2019; Panksepp, 1998).

Various chemicals can influence the RAGE system by promoting or diminishing its activity. For example, chemicals such as substance P (a type of neuropeptide that is thought to be the critical modulator in the system), norepinephrine (NE), testosterone, glutamate, acetylcholine, and nitric oxide synthases promote the impulse of anger. On the contrary, neurotransmitters such as serotonin and GABA reduce feelings of anger, although their effect is not specific; they tend to control all types of emotional responses. In addition, oxytocin and endogenous opioids also suppress the RAGE system (Panksepp & Biven, 2012).

The arousal of the RAGE system is an inescapable part of the human experience but the neocortex can inhibit RAGEful actions. Anger is often suppressed by the neocortex when expressing rage is likely to be followed by unpleasant consequences. On the contrary, the feeling of anger can foster and also be fostered by specific types of higher cognitive processes in humans, such as the appraisal of events, thoughts of revenge, feelings of irritability and resentment, sustained hatred, or wrathful plans about retribution (Fosha et al., 2009; Panksepp, 1998; Panksepp & Biven, 2012).

The excessive and sustained activity of the RAGE system in the brain might be considered a predisposition factor that is associated with extreme and persistent forms of aggression seen in psychiatric conditions, from chronic irritability to destructive psychotic rage (Archer, 2009; Guerra et al., 2011). Studies also showed that the emergence of anger-related depression could also be detected in early

childhood, due to the sensitization of this system (Guarra et al., 2011, Kokko et al., 2009).

In adult psychiatry, the presence of persistent and excessive acts of aggression is regarded as one of the diagnostic criteria for various psychiatric conditions other than depression, such as manic episodes in Bipolar Disorder, PTSD (Post-Traumatic Stress Disorder), Generalized Anxiety Disorder, and also Antisocial, Borderline and Paranoid personality disorders (American Psychiatric Association, 2013). In the DSM, "anger" is generally not the main diagnostic criterion for a psychiatric problem, but it is accepted as an essential subsidiary symptom for various psychological disorders (as cited in Panksepp & Biven, 2012).

1.1.1.3. The FEAR system

From the perspective of Affective Neuroscience, fear in humans is depicted as feeling "apprehensive worry, general nervousness, and tension" (Panksepp, 2004, p.156). Both external and internal stimuli can energize the FEAR circuitry. All mammals are born with an in-built fear system in their brains, and at first, it can only be aroused by a couple of unconditioned stimuli (such as pain and loud noises). Yet, through their experiences, mammals learn to fear a variety of different objects and situations (Panksepp, 1998). Due to their neocortical capabilities, humans have the ability to create much more fears than any mammalian. Humans even have "second-order, self-generated anticipatory anxiety"; in other words, they can be "anxious about being anxious" (Panksepp & Biven, 2012, p. 501).

The trajectory of the FEAR system runs from the central areas of the amygdala within the temporal lobe through the anterior and medial parts of the hypothalamus and from there to the lower brain stem through the specific zones of the PAG suited in the midbrain. Finally, the FEAR system descends to the particular parts of the lower

brain stem, which includes autonomic and behavioral output constituents, and the spinal cord, which is the brain part in the control of the physiological changes generated by fear, such as increased heart rate, changes in respiration, freezing or flee from the fear-inducing stimulus (Panksepp, 2004; Panksepp & Biven, 2012).

A number of neuropeptides modulate the FEAR system by enhancing or cutting down its activity. For instance, neuropeptide Y (NPY) and benzodiazepines (BZs) reduce anxiety symptoms via elevating the GABA activity. At the same time, corticotropin-releasing factor (CRF), catecholamines, cholecystokinin (CCK), and Adrenocorticotrophic hormone (ACTH) promote arousal of the FEAR system (Panksepp et al., 2011).

As a result of the repeated or long-lasting exposures to fear or anxiety-inducing stimuli, the FEAR system may become hypersensitized. When sensitized, the FEAR system can easily be activated without the influence of higher cortical functions which can lead to enduring anxieties and fears in individuals (Panksepp & Biven, 2012).

Under the category of anxiety disorders, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) describes six main psychological disorders: Separation Anxiety Disorder, Specific Phobias, Social Anxiety Disorder, Panic Disorder, Agoraphobia, and Generalized Anxiety Disorder (American Psychiatric Association, 2013). Even though not all of these psychiatric conditions can be explained only by the over-activation of this system, the common diagnostic criteria of "feeling excessive worry and anxiety" can be assumed to reflect the over-arousal of the FEAR system, (Davis & Panksepp, 2018; Panksepp & Biven, 2012).

1.1.1.4. The CARE system

The CARE system is responsible for preparing the mammalian brain to devotedly nurture, and bond with their offspring, for whom receiving care means survival (Panksepp & Biven, 2012).

The activation of the CARE system is accompanied by a positive feeling tone in females and males. The feeling of maternal devotion is imprinted not only in the brains of females who have or will bear a child and give birth but also in the brains of fathers of many species, even though it is not strong as in females (de Jong et al., 2009). Similarly, in humans, the fact that most of the brain regions and neurochemicals that facilitate caregiving are mutual in both sexes made it possible that males are also capable of nurturing. Since the CARE system promotes the nurture and experience of caring feelings, it can rightfully be accepted as the source of human empathy, altruism, and the tender feeling of compassion (Decety & Ickes, 2009; Panksepp & Biven, 2012; Panksepp & Panksepp, 2013).

The neural circuitry of the CARE system spans widely throughout the medial subcortical areas of the brain, interconnecting and branching with various subsystems that promote effective maternal behaviors. Presumably, key brain areas for CARE behaviors involve the paraventricular nucleus (PVN), the dorsal preoptic area (dPOA), the bed nucleus of the stria terminalis (BNST), and the ventromedial hypothalamus (VMH). One part of this system extends from the hypothalamus to the ventral tegmental area (VTA) and interacts with the SEEKING system. This interaction of CARE and SEEKING systems leads to purposive nurturing maternal behaviors. Also, the part of the CARE system that involves the BNST is connected with the PANIC/GRIEF system. Conceivably, the negative affect generated by the activation PANIC/GRIEF system increases the caregiving impulses in adults. Thus,

the mothers' escalated tendency to nurture their infants when they identify with their baby's discomfort might result from these systems' interaction (Panksepp, 1998; Panksepp & Biven, 2012).

1.1.1.5. The PANIC/ GRIEF system

The first social bonds of the infant, if established in a secure and warm manner, can lay the foundations of a psychologically healthy life (Bowlby, 1980; Spitz & Wolf, 1946). Contrary to some other animals, human beings are born immature, and their survival depends on the care they will receive from a trustful caregiver, primarily from their mother in mammalian species (Bowlby, 1953; Panksepp & Biven, 2012). In the earliest years of life, children who have responsive primary attachment figures begin to develop a basic sense of security and trust that will continue to affect the individual's mental health throughout life. The child's ability to emotionally bond, or "attach," with the caregiver and experience careful feelings bring along the capacity to GRIEF. In the first six years of life, the child's experience of social loss, separation distress/GRIEF, might make the child more prone to chronic anxiety and depression later in life (Panksepp, 1998; Panksepp & Biven, 2012).

As human beings, many other mammalian species also responses social isolation with a behavioral agitation and negative affect, namely, separation distress (Bayart et al., 1990; Hradec et al., 2021; Yamaguchi et al., 2010). Moreover, the scientific evidence demonstrated that the neural pathways underlying the physical pain and the social pain (which are aroused by social loss and/or social rejection) overlap in humans (Eisenberger et al., 2003; Eisenberger & Lieberman, 2004; Eisenberger et al., 2006).

In terms of classifications of types of anxiety, Affective Neuroscience seems to offer empirical evidence for Melanie Klein's work (1957) about depressive and paranoid-schizoid positions by suggesting that there are two types of anxiety experiences. One is the anxiety generated by the PANIC/GRIEF system (panic type) and the other is the anxiety created by FEAR (fear type) system activation. Panic type of anxiety is characterized by depressive feelings, and usually, it arises relating to object loss while the fear type of anxiety occurs in the face of situations that threaten bodily integrity. The panic type of anxiety appears to be quite similar to Klein's description of the main anxiety in the depressive position whereas the fear type of anxiety closely coincides with paranoid anxiety presented by Klein (as cited in Solms & Zellner, 2012).

Anatomically, the general human GRIEF system in the brain and the neuroanatomical trajectories that produce separation calls in the animal brain are identical. The GRIEF system, which generates the negative feeling of anguish, evolved from the more ancient brain systems, such as periaqueductal gray (PAG), that mediates the affective facet of physical pain, which can account for the stinging emotional pain of the sorrow. Although arousal of the GRIEF system originates these psychologically painful feelings of grief, all affects these emotional systems generate are also crucial for the survival of the newborn. This system expanded in a wide area centered mainly in the ancient medial brain zones, arising from PAG to parts in the dorsomedial thalamus, ventral septal area, preoptic area, bed nucleus of stria terminalis (BNST), and the cingulate cortex (Panksepp & Biven, 2012).

Neurochemically, the GRIEF system is activated by glutamate and corticotropin-releasing factor (CRF). Contrarily, three neuropeptides have been scientifically proven to be greatly effective in inhibiting the GRIEF system:

endogenous opioids, oxytocin, and prolactin (these also play an important role in mediating CARE). Although presumably the strongest in reducing separation distress, pharmaceutical forms of brain opioids (e.g., heroin) carry the danger of being highly addictive. This effect of opioids on the GRIEF system proposed a bilateral relationship between substance addiction and attachment processes. This relationship may be the reason why depressed people, who are in such despair, are more prone to be addicted to drugs. Also, it can explain why drug addiction bears a strong resemblance to social attachment and the similarities between withdrawal and social loss (Panksepp & Biven, 2012; Zellner et al., 2011).

The affective imbalances within the PANIC/GRIEF system may contribute to various emotional disorders. Studies have shown that the dearth of brain opioids causes depression, and by provoking an abrupt activation of the separation-distress system, the opioid deficiency could also give rise to panic attacks (Kennedy et al., 2006; Panksepp & Watt, 2011; Preter & Klein, 2008; Preter et al., 2011). Partly because of its relevance to panic attacks, this system was also called the PANIC system (Panksepp & Watt, 2011). Depression can also arise, followed by the stress of social loss, resulting in the persistent activation of the PANIC/GRIEF system and overarousal of the pituitary adrenal system (Sapolsky, 1996). In addition, separation trauma in the first years of life has been associated with the development of the obsessive-compulsive disorder (OCD) in later life (Jackson & Solms, 2013).

1.1.1.6. The PLAY system

The young of the many mammalian species, possibly various other animals as well, have an impulse to play with each other. Burghardt (2005) identified the general characteristics of play as being repeatable and spontaneous, not having an evident purpose except for experiencing its pleasure. Accordingly, the arousal of the PLAY

system generates the positive affect of joy in the mammalian brain (Panksepp & Biven, 2012).

In the evolutionary process, the PLAY system most probably assisted juvenile animals in learning social cooperation, social bonding, and social skills that helped them to identify with others as well as the non-social capacities, which range from cognitive skills to physical abilities like foraging (Spinka et al., 2001).

In humans, play in early childhood is crucial for cognitive, social, physical, and emotional development (Milteer et al., 2012). For PLAY to occur, a warm environment in which the individual could feel safe and secure is necessary. On the other hand, PLAY can easily be reduced by innumerable internal and external stimuli, such as negative bodily states including hunger and dehydration, or any event that leads to the emergence of a negative affect such as fear, anger, pain, and sorrow (Panksepp & Biven, 2012).

Anatomically, PLAYful urges mainly emerge in the parafascicular and dorsomedial thalamus (Siviy & Panksepp, 1987). Even though cortical regions are not necessary for the generation of play urges, the prefrontal cortex acts in coordination with the ventral and dorsal striatum and amygdala in modulating playful behaviors (Siviy, 2016). Neurochemically, releases of endogenous opioids and cannabinoids can promote PLAYfulness (Trezza et al., 2012).

From the perspective of clinical psychology, the imbalanced activity of the PLAY system can contribute to several psychiatric disorders. For instance, deprivation of natural play in early childhood can lead to over-arousal of the PLAY system in later years, and as a result, ADHD may occur. In addition, the under-activation of this system throughout early childhood increases the possibility of being more prone to depression in the future (Panksepp, 2008b; Panksepp & Biven, 2012).

1.1.1.7. The LUST system

The LUST system urges mammals to find sexual mates and reproduce (Davis & Montag, 2019). Modern neuroscience research indicates that the male and female mammal brains have different sexual circuitries.

In the female mammalian brain, the center of the LUST circuitry is the ventromedial hypothalamus (VMH). In contrast, LUST trajectories originate in the preoptic area of the anterior hypothalamus (POA) in the male mammalian brain in rats and interstitial nuclei of the anterior hypothalamus (INAH) in human males; both are neural regions that have abundant testosterone receptors. Supplementary to fostering sexual responsiveness of the male, testosterone also promotes aggressiveness (in other words, activates the RAGE system) and drives for dominance (Panksepp & Biven, 2012).

In addition to anatomical differences, male and female brain LUST neurochemistry are also distinct from one another. Oxytocin plays a key role in mediating female sexuality, whereas vasopressin is the key chemical that helps to promote male sexual behavior. However, vasopressin and oxytocin circuits are found in both sexes' brains, but female brains have a lesser amount of vasopressin than the male brain, while the opposite is true for oxytocin (Calabrò et al., 2019).

1.2. Neuropsychanalysis

Recent decades have witnessed an increasing interest among clinicians regarding the neural bases of affects, their manifestations in behaviors, and their interaction with and expression in cognitive processes (Diener et al., 2007; Diener & Hilsenroth, 2009; Fosha et al., 2009; Hajloo & Mowlaie, 2020; Kalsched, 2020; Markowitz & Milrod, 2011). The shift from cognitive-based psychotherapies to emotional and relational-based therapies can be at least partially explained by the

progression of developmental and affective neuroscience (Schore, 2014).

Appreciation of the primary-process emotions and basic affective systems has a pivotal role in guiding scientifically enlightened clinical thinking in terms of understanding the origin of psychiatric disorders and leading the way in developing new therapeutic techniques and relationship models that will help heal the emotional suffering of the clients (Abbass, 2006; Fosha et al., 2009; Panksepp & Biven, 2012). Neuropsych psychoanalysis can be regarded as one of, and probably most influential, these collaborative study areas where psychotherapy and affective neuroscience meet.

As the term suggests, neuropsych psychoanalysis can be defined as the integration of neuroscience and psychoanalysis under a single discipline that aims to reach a better comprehension of human beings by studying different aspects of the human mind within a monistic perspective (Panksepp & Solms, 2012; Solms, 2014, 2019; Solms & Turnbull, 2002). Solms and Turnbull (2011) proposed that an interdisciplinary dialogue between neuroscience and psychoanalysis is necessary for both increasing comprehensive knowledge between the two fields and making mutually enriching contributions to each discipline.

According to neuropsych psychoanalysis, understanding the nature of human phenomena can be possible only through studying both the objective reality and the subjective experience, since the subject of the study is a feeling organism (Solms & Turnbull, 2002). Therefore, the neuro-psych psychoanalysis advocates that while neuroscientists would benefit from taking the subjective facets of the nervous system into consideration in their studies (Johnson & Mosri, 2016; Mosri, 2021), taking into account objective aspects of the mind would provide psychoanalysts and psychoanalytically oriented psychotherapists a more holistic view of their patients in their clinical practice (Solms, 2001; Solms & Turnbull, 2002, 2011). In clinical

practice, having neuroscientific information about the brain systems will enrich their clinical perspective by adding new possibilities to their therapeutic work as well as opening new gateways to the therapeutic relationship by informing the patients regarding possible explanations of their sufferings (Yovell et al., 2015).

Clinical implications of neuro-psychoanalysis are essentially based on affective neuroscience and place "affect" at the center of the treatment. Accordingly, the neuro-psychoanalytic technique can mainly be described as the inclusion of affective neuroscience knowledge and the widely known and currently used psychoanalytic techniques (Johnson & Mosri, 2016; Mosri, 2021; Yovell et al., 2015).

1.3. Affective Neuroscience Personality Scales (ANPS)

Based on the studies on the basic affective systems of the brain, Affective Neuroscience theory hypothesized that human personality could be predicted to a great extent through the strengths and weaknesses found in the primary affective systems (Davis et al., 2003; Panksepp, 1998). In a similar vein with psychoanalytic theories (Bowlby, 1960; Spitz, 1960), affective neuroscience also claims that emotional disturbances, the foundations of affect-specific problems, are often found in past traumatic experiences and repetitious stressful events that have taken place in the early stages of life (Panksepp & Biven, 2012). The reason why the effects of adverse experiences that occurred in early life are such long-lasting can be attributed to their ability to sensitize or desensitize primary emotional systems of the brain with excessive negative affect (Panksepp, 2012; Panksepp & Biven, 2012). Since young minds are much more susceptible to influence by stressful life events as well as wonderful positive life events, the positive and negative experiences more likely to be imprinted on the brain's emotional systems as strengths or vulnerabilities. Since it is not possible to measure someone's emotional systems activities directly with

physiological tools, the only way to objectively estimate these imprints on the emotional systems is to ask the person the most appropriate questions to understand the strengths and weaknesses in these emotional systems (Davis et al., 2003; Davis & Panksepp, 2011; Davis & Panksepp, 2018). In accordance with this purpose, the first version of Affective Neuroscience Personality Scales was introduced by Davis, Panksepp, and Normannsell in 2003.

The construction of the ANPS reflects the first endeavor of developing a personality scale that aims to measure the emotional nature of humans based on the knowledge acquired from modern neuroscience (Davis et al., 2003; Davis & Panksepp, 2011; Davis & Panksepp, 2018). Even though ANPS items are constructed to identify primary emotions, since it is a self-report questionnaire, ANPS relies heavily upon cognitive reflection. Hence, Davis and Panksepp (2011) stated that the attempt of the ANPS scales could be defined more accurately as having tertiary (cognition-mediated) information about the influence of individuals' primary affective system activities on their lives.

The original form of ANPS is a self-report questionnaire consisting of a total of 110 items that assesses six primary affective traits (SEEK, FEAR, CARE, ANGER, PLAY, and SADNESS) with an additional scale of Spirituality. The six scales, each representing a primary emotional system, comprised 14 (7 positive and 7 negative, i.e., reverse-scored) items, and the Spirituality scale consisted of 12 items, six positively and six negatively worded. Fourteen filler items that generally reflect personal interests were included in the ANPS to test the validity of given answers. The items of the ANPS were organized in an order consisting of 14 blocks and followed a specific item sequence: SEEK, FEAR, CARE, ANGER, PLAY,

SADNESS, Spirituality (until all 12 items were completed), and lastly, a filler item (Davis et al., 2003; Davis & Panksepp, 2011).

As the items of the questionnaire aim to evaluate the participant's feelings and behaviors rather than their social judgments, they have been written in accordance with this purpose. For instance, "I am very attached to my family" was selected instead of "It is important for a person to feel attached to his/her family." The items of the scale are rated on a four-point Likert scale ranging from "strongly agree" to "strongly disagree" (Davis et al., 2003).

In the development of ANPS, norm values were obtained based on two different populations: undergraduate college students (121 females and 50 males) and adult job applicants (106 females and 492 males). The data obtained from undergraduate students yielded significant gender differences in CARE, SADNESS, and Spirituality scales in favor of females, whereas, in the SEEKING scale, male college students received marginally significantly higher scores than females. Although the data collected from job applicants is considered questionable, as it is thought that participants might respond with a social desirability bias in order to be recruited, this adult sample also showed the same gender differences on CARE, SADNESS, and Spirituality scales, yet the SEEKING scale did not reveal gender differences as observed in the student sample.

The ANPS included six, instead of seven, primary emotions due to the exclusion of LUST. LUST is not a measured primary emotion in ANPS because this system seemed to be less related to the traditional conceptualization of "human personality," partly due to its motivational nature. Furthermore, the researchers suspected that respondents would be inclined to answer the questions regarding their sexuality within a social desirability framework, which could have an unfavorable

impact on the frankness of other scales (Davis et al., 2003; Davis & Panksepp, 2011). However, Fuchshuber and colleagues (2022) recently developed two scales, namely L-5 and L-12, to assess the LUST dimension from the Affective Neuroscience perspective.

Even though not regarded as a primary emotion, the inclusion of the Spirituality scale into ANPS can be explained by Panksepp's (2004) recognition of the significance of this factor in drug addiction and addiction recovery programs (Davis & Panksepp, 2011). Spirituality is considered one of the highest human feelings and is defined as feeling “connected to humanity and creation as a whole, feeling a sense of oneness with creation, striving for inner peace and harmony, relying on spiritual principles, and searching for meaning in life” (Davis et al., 2003, p. 60). Although Spirituality and religiosity may appear as overlapping concepts, and even some researchers claimed they are interrelated (Miller & Thoresen, 2003), Spirituality assessed by ANPS does not correspond exclusively to religiosity.

Davis and Panksepp (2011) later revised the ANPS by altering several items and adding two more filler items from its 2003 version, which resulted in a 112-item scale consisting of 14-item for each six primary emotion scales, a 12-item Spirituality scale, and 16 filler items.

Up to date, the ANPS has been translated and adapted into many languages and cultures including France (Pahlavan et al., 2008), Spain (Abella et al., 2011), Turkey (Özkarar-Gradwohl et al., 2014), Norway (Geir et al., 2014), Italy (Pascasio et al., 2015), Hong Kong (Yu, 2016), Poland (Cwojdzńska & Rybakowski, 2016), Portugal (Almeida, 2016), Germany (Reuter et al., 2017), Japan (Narita et al., 2017), Serbia (Montag et al., 2017), China (Sindermann et al., 2018), and Russia (Volf & Privodnova, in preparation, as cited in Özkarar-Gradwohl & Turnbull, 2021). These

studies also have supported that ANPS was a reliable and valid measure to assess the affective origins of personality.

1.4. A Brief Form of the Affective Neuroscience Personality Scales (BANPS)

Despite being a unique and valuable tool to investigate the affective experiences of humans, the ANPS also has a number of downsides, including a vague factor structure, time-consuming scales, some unclearly worded items, and ambiguous content variability of some items (Barrett et al., 2013). Among these problems, especially exceedingly long scales (it takes approximately 15 minutes to complete the form) prevented the ANPS from being used widely. The Brief Form of the ANPS, namely BANPS, was developed to solve these issues by Barrett and colleagues (2013).

On behalf of constructing BANPS, Barrett and colleagues (2013) benefited from various guidelines (for details, See Barrett et al., 2013) to take the most appropriate steps in shortening and improve the psychometric qualities of the ANPS. Following these steps, they conducted three studies with a sample consisting of undergraduate college students to remove incomprehensible items from the scale, reduce correlations between scales and obtain a simple factor structure to increase the separability of each scale while preserving the internal consistencies of the scales. As a result of these studies, they managed to shorten the ANPS to 33 items.

The Brief ANPS was further proven to be a reliable and valid tool to assess affective personality traits, as indicated by the correlations of its subscales with scores of various related personality questionnaires, including the Big Five Inventory (BFI; Benet-Martinez & John, 1998), Affect Valuation Index (AVI; Tsai et al., 2006), Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), Extended Positive and Negative

Affect Schedule (PANAS-X; Watson & Clark, 1994), Authentic and Hubristic Pride Proneness Scales (Pride; Tracy & Robins, 2007), Rosenberg Self Esteem Scale (RSE; Rosenberg, 1965) and Social Phobia Scale (SPS; Mattick & Clarke, 1998).

In addition, while the ANPS is measured on a 4-point Likert scale and on the scale, the lowest value indicates the highest endorsement of the item, the BANPS is evaluated with a 5-point Likert scale with the “1” reflecting the lowest and “5” reflecting highest endorsement, in accordance with the intuitive inclinations of the respondents. The BANPS utilized a 5-point scale because this rating was revealed to provide more accurate reliability estimates than the 4-point rating scales (Barrett et al., 2013).

The 33-item Brief ANPS consists of six scales which assess six core emotions. PLAY, SEEK, FEAR, and ANGER scales consist of 6 items, whereas the SADNESS scale comprises of 5 items, and the CARE scale includes 4 items. In the construction of the BANPS, the 12-item Spirituality scale was thought of as secondary to other scales and removed since this scale did not represent a primary affective system. Additionally, the 16 filler items from the revised form of ANPS were excluded based on the rationale that filler items are not essential to include in the assessment tools (Barrett et al., 2013).

For the time being, The BANPS has been translated into several languages, including Norwegian (Geir et al., 2014), Brazilian Portuguese (Esposito et al., 2016), Persian (Amiri & Azad-Marzabadi, 2017), and Portuguese (Gurfinkel et al., 2018). These cross-cultural adaptations also found that BANPS is a reliable and valid measure and can be used safely as a short alternative to ANPS for assessing basic emotions.

1.5. Statement of Purpose

The main purpose of the current study was to translate and carry out the adaptation study of the BANPS into the Turkish language and culture. Another aim of the study was to prove the reliability and validity of the Turkish version of the BANPS in a general community sample. Also, the methodology of the original study (Barrett et al., 2013) was followed to allow cross-cultural comparability of the Turkish BANPS by utilizing the research instruments of ANPS (Affective Neuroscience Personality Scales), BFI (Big Five Inventory), ERQ (Emotion Regulation Questionnaire), and PANAS (The Positive Affect-Negative Affect Schedule).

2. METHOD

2.1. Participants

The present study utilized a convenience sampling method for data collection. The inclusion criteria for participation included being in the age range of 18-65 years, not having a neurodegenerative disease, and not having a psychiatric disorder that may impair reality testing, i.e., psychosis and bipolar disorder. Eight hundred ninety-seven participants participated in the study, but data collected from 24 participants were excluded due to not meeting the inclusion criteria. The final sample of the present study consisted of 873 participants whose ages ranged between 18 and 65 years.

2.2. Research Instruments

2.2.1. Demographic Information Form

In the demographic form, the participants were asked to report their age, gender, level of education, total years of education, diagnosed psychological/psychiatric or neurological disorders (if any), and whether they ever experienced traumatic brain injury resulting in loss of consciousness.

2.2.2. Affective Neuroscience Personality Scales (ANPS)

Since the detailed information regarding the development and the structure of the Affective Neuroscience Personality Scales (ANPS; Davis et al., 2003; Davis & Panksepp, 2011) was presented in the Introduction, only the psychometric properties of the original ANPS and the Turkish version of the ANPS will be covered this section.

The reliability and validity of the 110-item Affective Neuroscience Personality Scales (ANPS) were investigated based on the data retained from two samples: university students and adult job applicants. The ANPS have shown adequate

reliabilities, with Cronbach alpha coefficients ranging between .65 and .86. Specifically, PLAY, FEAR, and Spirituality scales reported good reliability with Cronbach's alpha values above .80. The correlations between the scores of the ANPS and the Big Five Scales (B5S; Davis et al., 2003) were examined to test the validity of the scale, and the results showed satisfactory concurrent validities, with correlation coefficients ranging from .24 to .75.

Turkish adaptation study of the Affective Neuroscience Personality Scales (ANPS) was conducted by Özkarar- Gradwohl, and colleagues (2014) using two samples (university students and adults) with a total of 890 participants. As in the original study, the Big Five Scales were used for examining the validity of the Turkish version of ANPS, and the analysis of the concurrent validity yielded significant correlations ranging between .18 and .56. The reliabilities of the scales were shown to be parallel to the original study (Davis et al., 2003), with Cronbach's alpha levels calculated as .56 for SEEK, .70 for FEAR, .72 for CARE, .73 for ANGER, .70 PLAY, .55 for SADNESS and .78 for Spirituality subscales.

2.2.3. Brief Form of Affective Neuroscience Personality Scales (BANPS)

Information regarding the construction process and psychometric properties of the original Brief Form of Affective Neuroscience Personality Scales (BANPS; Barrett et al., 2013) was provided in Introduction section.

After receiving permission from the authors of the original version of BANPS (Barrett et al., 2013), the translation-back translation method was utilized to adapt the scale to Turkish (Brislin et al., 1973). The scale was translated to Turkish by a professional bilingual translator. Then, it was back-translated by two clinical psychologists with a Ph.D. level who have received their graduate education in

English. The back-translation was compared to the original version with regard to both content and style. Afterwards, three additional Ph.D.-level psychologists rated the final Turkish translation of each item on a 5-point Likert scale. As a result of their positive feedback, the final version of the Turkish BANPS was obtained.

2.2.4. The Big Five Inventory (BFI)

The 44-item Big Five Inventory (BFI; Benet-Martinez & John, 1998) is one of the widely used measurement tools to assess the big five dimensions of personality (John & Srivastava, 1999). The BFI was constructed to assess core features of each dimension, in other words, to capture prototypal descriptions of the big five factors. To achieve that, short phrases reflecting the prototype descriptions of each factor were selected based on expert ratings and observer ratings that were confirmed to be reliable by the subsequent factor analysis.

In the BFI, each of the big five factors is represented by a scale, and the Agreeableness, Conscientiousness, and Openness scales consisted of 9 items, while Extraversion and Neuroticism scales included eight items; together, they comprised 44 items. The respondents rated each item on a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree."

Although the number of items in each scale is fewer compared to the other widely used Five-Factor scales (Costa & McCrae, 1992; Goldberg, 1992), the BFI managed to preserve good psychometric properties. Additionally, the BFI scales were proven to have high Cronbach alpha reliabilities in the U.S and Canada with an average above .80, ranging from .75 to .90. Furthermore, across all 11 cultural regions and 56 nations, the coefficient alpha reliabilities of the BFI scales were found to range from .76 to .79 (Schmitt et al., 2007). Also, the BFI scales showed notable convergent

and discriminant validities as the results of cross-instrument correlations and peer ratings (John & Srivastava, 1999; Schmitt et al., 2007).

The Turkish adaptation study of the BFI has been carried out by Sümer and Sümer (2005) within a scope of the Turkey part of a cross-cultural study on the individual's self-description patterns across 56 countries (Schmitt et al., 2007). The adaptation of the BFI was carried on with a sample composed of university students and general members of the community, and the scale has been claimed to have satisfactory reliability and validity values.

2.3.5. The PANAS (Positive and Negative Affect) Scales

The Positive and Negative Affect Schedule (PANAS) has been designed to measure two main emotional dimensions, positive and negative affect (Watson et al., 1988). Positive affect (PA) was defined by Watson et al. (1988) as feeling "enthusiastic, active and alert" (p.1063), and they suggested that high PA refers to states in which one feels pleasure, a high level of vitality, and concentration whereas low PA reflects feelings of depression and lack of energy. On the contrary, the term "negative affect (NA)" is used to describe a range of negative mood states such as anger, nervousness, distress, contempt, and shame, and the low NA indicates the state of being at peace and comfort. Although the constructs of Positive Affect and Negative Affect might appear as opposites (bipolar ends of the same construct), various studies have demonstrated that these two dimensions are statistically independent of each other (Huebner & Dew, 1995; Warr et al., 1983; Watson et al., 1988).

In addition to corresponding affective state factors, the Positive Affect (PA) and negative affect (NA) have also been demonstrated to reflect personality traits of extraversion and neuroticism, respectively (Watson et al., 1988).

The PANAS scales consist of 20 items, 10 of which assess Positive Affect (PA) and 10 assess Negative Affect (NA). Each item is evaluated on a five-point Likert scale from 1 "very slightly or not at all" to 5 "extremely." The psychometric findings of the PANAS scales revealed strong findings. The Cronbach alpha internal consistency coefficient was found to be .88 for positive affect and .85 for negative affect. In addition, the PANAS scales' correlations with other measures of related and unrelated affective dimensions have demonstrated that the scales have very good convergent and discriminant validity (Watson et al., 1988).

Turkish standardization study of the PANAS scales was conducted by Gençöz (2000), based on the data obtained from 199 undergraduate students. The Turkish version of the scale also indicated good internal consistencies, with a Cronbach alpha coefficient of .86 for the Positive Affect (PA) scale and Cronbach alpha coefficient of .83 for the Negative Affect (NA) scale. Additionally, the total item correlation was shown to vary between .33 and .67 for the PA scale and from .35 to .70 for the NA scale. The external validity of the Turkish PANAS scales was studied through Beck Depression (BDI; Beck et al., 1961) and Beck Anxiety Inventories (BAI; Beck et al., 1988). According to the findings of these studies, the PA scale indicated significant correlations of -.48 with BDI and -.22 with BAI, whereas the significant correlations of the NA scale were shown to be .51 and .47 for BDI and BAI, respectively.

2.2.6. Emotion Regulation Questionnaire

Emotion Regulation Questionnaire (ERQ) was developed to measure individual differences in habitual usage of two general emotional regulation strategies: cognitive reappraisal -changing the way of thinking with the intention of reducing or altering its emotional influence- and expressive suppression -inhibiting the behavioral manifestations of emotions- (Gross & John, 2003).

The ERQ includes ten items, 6 of which represent a cognitive reappraisal strategy, while 4 evaluate an external suppression strategy. All items are answered on a seven-point Likert scale, ranging between 1 "strongly disagree" and 7 "strongly agree." The Cronbach alpha levels of the scale were shown to be .80 for cognitive reappraisal strategy and .73 for expressive suppression. Although the original validity study of the scale was conducted with a sample of university students, it has recently been shown that the ERQ protected its robust psychometric properties in community samples, as well (Preece et al., 2021).

ERQ was adapted to Turkish by Ulaşan-Özgüle (2011). The Turkish version of the Emotion Regulation Questionnaire indicated acceptable internal reliability with Cronbach's alpha coefficients ranging between .75 and .82 for cognitive reappraisal and between .68 and .76. for expressive suppression.

2.3. Procedure

The study was approved by Yeditepe University Social Sciences and Humanities Ethics Board. An electronic flyer containing the information on conditions of participation and the duration of the study was prepared and shared with potential participants through e-mail and social media to announce the study. All data was collected with an online questionnaire tool called "Google Forms."

Firstly, an informed consent form asking for voluntary participation was presented in the online survey. This form included brief information about the aim of the present study, participants' right to quit the study at any point, an explanation of how participants can acquire the results of the research, and the investigator's contact information. Those who agreed to participate were then asked to fill out the rest of the form in the following order: Demographic Information Form, Affective Neuroscience Personality Scales (ANPS), Brief Form of the Affective Neuroscience Personality

Scales (BANPS), Big Five Inventory (BFI), Positive and Negative Affect Schedule (PANAS), and Emotion Regulation Questionnaire (ERQ). At the end of the form, participants received a debriefing explaining the purpose of the study. The whole process took approximately 25-30 minutes. The study form, including informed consent and debriefing forms, are presented in Appendices A, B, C, D, E, F, G and H.



3. RESULTS

3.1. Sociodemographic Characteristics of the Sample

The study was carried out with a total of 873 participants (618 female and 253 male) whose mean age was 32.22 years ($SD = 10.48$). The Young Adult sample consisted of 296 participants between the ages of 18 and 25 years, and the Adult sample had 577 participants between the ages of 26 and 65 years. The Young Adult and Adult samples differed significantly from each other in terms of gender, $\chi^2(2) = 15.29$, $p < .001$, and the total years of education, $t(867) = -5.271$, $p < .001$.

Sociodemographic characteristics of the participants are summarized in Table 1.

Table 1

Sociodemographic Characteristics of the Sample

Sociodemographic Characteristics	All Participants (N= 873)	Young Adults (N= 296)	Adults (N= 577)
Mean Age (SD)	32.22 (10.48)	22.89 (2.00)	37.01 (9.81)
Gender (%)			
Female	70.8	77.7	67.2
Male	29.0	21.6	32.8
Non-binary	0.2	0.7	-
Education Status (%)			
Primary School (5 years)	0.5	-	0.7
Primary School (8 years)	1.4	0.3	1.9
High School	13.4	26.0	6.9
Associate Degree	4.1	5.1	3.6
Bachelor's	53.4	60.8	49.6
Master	21.2	7.4	28.2
Doctorate	6.1	0.3	9.0
Total Years of Education (SD)	16.97 (3.87)	16.02 (2.32)	17.46 (4.39)

3.2. Analyses Based on Sociodemographic Characteristics of the Sample

A series of independent t-tests were performed to compare the mean scores of the participants in the adult and young adult samples for the ANPS and BANPS scales. For the ANPS scales, the results suggested that the mean score of Play, Fear, Anger, and Sadness scales were significantly higher in the young adult sample. In case of BANPS scales, participants from the young adult sample obtained significantly higher scores in Play, Care, Fear, and Sadness than that of participants in the adult sample. The detailed results of t-test analyses are presented in Table 2.

Table 2

T-test Results of ANPS and BANPS Scale Scores

Mean Scale Scores (SD)	All Participants (N= 873)	Young Adults (N= 296)	Adults (N= 577)	t (869)	p
ANPS					
Seek	25.48 (4.94)	25.88 (5.17)	25.27 (4.81)	1.709	.088
Play	23.23 (5.52)	24.22 (5.75)	22.72 (5.34)	3.816	< .001**
Care	27.61 (5.54)	28.08 (5.87)	27.37 (5.35)	1.796	.073
Fear	24.87 (6.32)	26.50 (5.99)	24.03 (6.33)	5.559	<.001**
Anger	25.56 (6.27)	26.53 (6.26)	25.07 (6.22)	3.276	.001*
Sadness	21.71 (5.32)	22.90 (5.27)	21.10 (5.24)	4.803	<.001**
BANPS					
Seek	21.65 (4.12)	21.65 (3.88)	21.65 (4.24)	.007	.994
Play	20.81 (4.46)	21.71 (4.30)	20.35 (4.47)	4.303	<.001**
Care	14.55 (3.13)	14.88 (3.28)	14.38 (3.04)	2.250	.025*
Fear	17.99 (4.28)	19.11 (3.98)	17.42 (4.32)	5.638	<.001**
Anger	18.37 (4.58)	18.63 (4.71)	18.24 (4.52)	1.183	.237
Sadness	18.60 (5.44)	19.44 (5.73)	18.17 (5.23)	3.281	.001*

* $p < .05$, ** $p < .001$

Gender differences in the mean scale scores of ANPS and BANPS were investigated for three samples (all participants, young adults, and adults) separately (See Table 3). The results of the analyses conducted for all participants exhibited that there were significant gender differences in ANPS scales of Care, Fear, and Sadness; and in BANPS scales of Play, Care, Fear, and Sadness, with female participants having higher scores than male participants.

Among young adults, female participants' scores were significantly higher than males on Care, Fear, and Sadness scales in ANPS and Care and Fear scales in BANPS. Table 3 presents the detailed information of these t-test results.

In the adult sample, the mean scores differed significantly, with females obtaining higher scores than males on the scales of Care and Fear in the ANPS; and Fear and Sadness in the BANPS.

When the relationship between the age of the participants and their mean scale scores of ANPS and BANPS were examined, age was found to be weakly negatively correlated with Play (ANPS: $r(873) = -.15$, BANPS: $r(873) = -.18$), Fear (ANPS: $r(873) = -.28$, BANPS: $r(873) = -.26$), Anger (ANPS: $r(873) = -.16$, BANPS: $r(873) = -.10$) and Sadness (ANPS: $r(873) = -.22$, BANPS: $r(873) = -.18$) scale scores (all correlations were significant at $p < .001$ level).

Table 3*T-test Results of the ANPS and BANPS Scale Scores for Gender*

All Participants (N= 871)					Young Adults (N= 294)				Adults (N= 577)			
Mean Scale Scores (SD)	Female (N=618)	Male (N=253)	<i>t</i> (869)	<i>p</i>	Female (N=230)	Male (N=64)	<i>t</i> (292)	<i>p</i>	Female (N=388)	Male (N=189)	<i>t</i> (575)	<i>p</i>
ANPS												
Seek	25.44	25.54	-.283	.777	25.77	26.16	-.533	.594	25.24	25.33	-.213	.831
	(5.07)	(4.63)			(5.32)	(4.66)			(4.91)	(4.62)		
Play	23.27	23.12	.346	.729	24.17	24.31	-.170	.865	22.73	22.72	.015	.988
	(5.49)	(5.62)			(5.77)	(5.80)			(5.26)	(5.52)		
Care	28.27	25.94	5.737	<.001**	28.75	25.45	4.080	<.001**	27.98	26.11	4.008	<.001**
	(5.43)	(5.43)			(5.43)	(6.66)			(5.42)	(4.96)		
Fear	25.48	23.35	4.567	<.001**	26.97	24.80	2.589	.010*	24.60	22.86	3.123	.002*
	(6.17)	(6.44)			(5.90)	(6.01)			(6.17)	(6.52)		
Anger	25.79	25.00	1.682	.093	26.69	25.91	.885	.377	25.25	24.69	1.010	.313
	(6.18)	(6.47)			(6.28)	(6.28)			(6.07)	(6.51)		
Sadness	22.07	20.78	3.289	.001*	23.29	21.34	2.640	.009*	21.35	20.58	1.655	.098
	(5.19)	(5.51)			(5.14)	(5.45)			(5.08)	(5.53)		

Mean Scale Scores (SD)	All Participants (N= 871)				Young Adults (N= 294)				Adults (N= 577)			
	Female (N=618)	Male (N=253)	<i>t</i> (869)	<i>p</i>	Female (N=230)	Male (N=64)	<i>t</i> (292)	<i>p</i>	Female (N=388)	Male (N=189)	<i>t</i> (575)	<i>p</i>
BANPS												
Seek	21.69 (3.97)	21.52 (4.47)	.558	.577	21.54 (3.85)	21.92 (3.97)	-.707	.480	21.78 (4.04)	21.38 (4.63)	1.063	.288
Play	21.04 (4.43)	20.23 (4.49)	2.446	.015*	21.87 (4.15)	21.06 (4.83)	1.319	.188	20.55 (4.52)	19.94 (4.35)	1.527	.127
Care	14.71 (3.13)	14.12 (3.07)	2.507	.012*	15.10 (3.17)	13.94 (3.52)	2.544	.011*	14.47 (3.09)	14.19 (2.91)	1.054	.292
Fear	18.52 (4.17)	16.68 (4.29)	5.856	<.001**	19.46 (3.85)	17.78 (4.22)	3.025	.003*	17.96 (4.25)	16.31 (4.26)	4.372	<.001**
Anger	18.47 (4.54)	18.11 (4.69)	1.052	.293	18.80 (4.70)	17.97 (4.79)	1.247	.213	18.28 (4.45)	18.16 (4.67)	.292	.770
Sadness	18.91 (5.47)	17.75 (5.22)	2.897	.004*	19.55 (5.82)	18.75 (5.22)	.991	.322	18.54 (5.22)	17.41 (5.19)	2.448	.015*

Note. Standard deviations are presented in parentheses.

* $p < .05$, ** $p < .001$

When the scale scores of female participants in the young adult and adult samples were compared, it was shown that females in the young adult sample scored significantly higher on Play, Fear, Anger, and Sadness scales in the ANPS and Play, Care, Fear, Sadness scales in the BANPS. For detailed information, see Table 4.

Table 4

T-test Results of ANPS and BANPS Scales for Female Young Adult and Female Adult Participants

Female Participants (N= 618)				
Mean Scale Scores (SD)	Young Adults (SD) (N=230)	Adults (SD) (N= 388)	<i>t</i> (616)	<i>p</i>
ANPS				
Seek	25.77 (5.32)	25.24 (4.91)	1.241	.215
Play	24.17 (5.77)	22.73 (5.26)	3.189	.001*
Care	28.75 (5.43)	27.98 (5.42)	1.696	.090
Fear	26.97 (5.90)	24.60 (6.17)	4.677	<.001**
Anger	26.69 (6.28)	25.25 (6.07)	2.818	.005*
Sadness	23.29 (5.14)	21.35 (5.08)	4.559	<.001**
BANPS				
Seek	21.54 (3.85)	21.78 (4.04)	-.745	.457
Play	21.87 (4.15)	20.55 (4.52)	3.613	<.001**
Care	15.10 (3.17)	14.47 (3.09)	2.446	.015*
Fear	19.46 (3.85)	17.96 (4.25)	4.404	<.001**
Anger	18.80 (4.70)	18.28 (4.45)	1.387	.166
Sadness	19.55 (5.82)	18.54 (5.22)	2.225	.026*

* $p < .05$, ** $p < .001$

The comparison of the scale scores of male participants in the young adult and adult samples indicated that males in the young adult group had significantly higher scores on Play and Fear scales of ANPS and Fear scale in BANPS. T-test results are presented in Table 5.

Table 5

T-test Results of ANPS and BANPS Scales for Male Young Adult and Male Adult Participants

Male Participants				
(N= 253)				
Mean Scale Scores (SD)	Young Adults (SD) (N= 64)	Adults (SD) (N= 189)	<i>t</i> (251)	<i>p</i>
ANPS				
Seek	26.16 (4.66)	25.33 (4.62)	1.230	.220
Play	24.31 (5.80)	22.72 (5.52)	1.971	.050*
Care	25.45 (6.66)	26.11 (4.96)	-.830	.407
Fear	24.80 (6.01)	22.86 (6.52)	2.091	.037*
Anger	25.91 (6.28)	24.69 (6.51)	1.299	.195
Sadness	21.34 (5.45)	20.58 (5.53)	.955	.340
BANPS				
Seek	21.92 (3.97)	21.38 (4.63)	.837	.404
Play	21.06 (4.83)	19.94 (4.35)	1.732	.084
Care	13.94 (3.52)	14.19 (2.91)	-.556	.578
Fear	17.78 (4.22)	16.31 (4.26)	2.401	.017*
Anger	17.97 (4.79)	18.16 (4.67)	-.280	.780
Sadness	18.75 (5.22)	17.41 (5.19)	1.787	.075

* $p < .05$, ** $p < .001$

3.3. Reliability

3.3.1. Internal Consistency

In order to examine the reliability of the Turkish version of BANPS, internal consistencies of the overall BANPS and its individual scales were calculated. The Cronbach's alpha value for the overall BANPS was calculated as .79, indicating that the scale has good internal reliability. Cronbach alpha values of BANPS scales ranged from .586 to .825 (See Table 6).

Table 6*Internal Consistency and Descriptive Statistics of BANPS Scales*

Scale	<i>M</i>	<i>SD</i>	Number of Items	Cronbach α
Seek	21.65	4.12	6	.657
Play	20.81	4.46	6	.723
Care	14.55	3.13	4	.586
Fear	17.99	4.28	5	.755
Anger	18.37	4.59	6	.640
Sadness	18.60	5.44	6	.825

3.4. Validity

The validity of the Turkish version of BANPS was assessed by using two approaches: construct validity and criterion validity.

3.4.1. Construct validity

The construct validity was examined by means of investigating inter-correlations between BANPS scales and executing exploratory and confirmatory factor analyses.

3.4.1.1. Intercorrelations between the Scales of BANPS

In all samples, the results of the intercorrelations of BANPS scales revealed that the positive scales of Play, Seek, and Care correlated significantly and positively with each other. In addition, significant positive intercorrelations were obtained for negative scales of Fear, Anger, and Sadness.

Although weakly, the Play scale was negatively correlated with Sadness in all samples and with the Fear scale, yet only for the adult sample.

The Seek scale was found to be positively correlated with Fear and Anger scales for all participants and for young adults, but no such significant correlation was obtained for the young adult sample.

The Care scale was correlated positively with Fear in all samples and negatively with Anger but only in the young adult sample. The detailed information about the intercorrelations of BANPS scales is shown in Table 7.



Table 7*Intercorrelations for BANPS Scales (N= 873)*

	1	2	3	4	5
1. Seek					
All	-	.278**	.245**	.120**	.072*
Young Adults	-	.178**	.130*	.226**	.123*
Adults	-	.328**	.305**	.077	.047
2. Play					
All	.278**	-	.418**	.042	-.057
Young Adults	.178**	-	.434**	.053	-.010
Adults	.328**	-	.402**	-.002	-.090*
3. Care					
All	.245**	.418**	-	.137**	-.054
Young Adults	.130*	.434**	-	.151**	-.158**
Adults	.305**	.402**	-	.112**	.001
4. Fear					
All	.120**	.042	.137**	-	.351**
Young Adults	.226**	.053	.151**	-	.283**
Adults	.077	-.002	.112**	-	.384**
5. Anger					
All	.072*	-.057	-.054	.351**	-
Young Adults	.123*	-.010	-.158**	.283**	-
Adults	.047	-.090*	.001	.384**	-
6. Sadness					
All	<-.001	-.181**	-.016	.609**	.347**
Young Adults	.053	-.207**	.009	.561**	.255**
Adults	-.028	-.197**	-.045	.627**	.397**

* $p < .05$, ** $p < .001$

3.4.1.2. Exploratory Factor Analysis for BANPS Scales

An exploratory factor analysis to explore the factor structure of BANPS was conducted following the methodological steps outlined in the original BANPS study (Barrett, 2013). According to the original methodology, all 33 items of the BANPS were factor analyzed using maximum likelihood factor extraction with Varimax (orthogonal) rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was found to be .83, which is higher than the commonly accepted value of .70, and Bartlett's test of sphericity was found to be significant ($\chi^2(345) = 1535.545$, $p < .001$), verifying the adequacy of the correlation structure of the items for factor analyses. A 6-factor solution was preferred due to its theoretical support and to increase the interpretability of each factor. The 6-factor solution explained a total of 43.42% of the variance in the BANPS items. The results of this factor analysis are reported in Table 8.

3.4.1.3. Higher-level Exploratory Factor Analysis for BANPS Scales

Since the executed factor analyses of the original ANPS revealed that the scale could be interpreted in a higher-level affect structure that corresponds to positive affect (Play, Seek, Care) and negative affect (Fear, Anger, Sadness) (Davis et al., 2003), further exploratory factor analyses were carried on to verify that this higher-order structure can be replicated in the BANPS. In accordance with this goal, two (one for ANPS and one for BANPS scales) exploratory factor analyses were conducted by utilizing principal component analysis with Varimax rotation and selecting the 2-factor solution, and the similarity of the factor structures of the ANPS and BANPS were assessed using Tucker's congruence coefficient (TCC; Lorenzo-Seva & ten Berge, 2006). The factor analyses of both ANPS and BANPS revealed to have two higher factors; namely, positive affect and negative affect, the correlations

between first-order scales and higher-order factors of ANPS and the BANPS are presented in Table 9. The 2-factor solution explained the 64% variance in correlations between the scales in ANPS and 60% of the variance in the scale intercorrelations in BANPS. When the higher factor structures of the two scales were compared, Tucker's congruency coefficient values both for positive affect (TCC= .99) and negative affect (TCC=.98) indicated that these two factors could be considered as equal between ANPS and BANPS. Table 9 shows the results of this factor analysis.

3.4.1.4. Confirmatory Factor Analysis

For BANPS items, maximum likelihood confirmatory factor analysis with items loading only on their target factor (intended BANPS scale) by setting the cross-loadings of items onto non-targeted factors to zero in the model. The analysis was performed by adhering to the methodology of the original study. The analysis was executed by using Amos 24.0 software. The indices values obtained for the model fit were calculated as $\chi^2/df = 4.98$, RMSEA = .071 [.0670-.0730], CFI= .810, AGFI= .790 and SRMR= .080. According to these results, the χ^2/df , RMSEA, and sRMR values met the criteria of acceptable model fit, and the fact that 90% CI RMSEA value was smaller than .10 indicates that the model fit statistics can be interpreted with confidence. Even though CFI and AGFI values did not fall into the category of acceptable fit, it is worth noting that they were close to the desired values (Marsh & Hocevar, 1988; Schermelleh-Engel et al., 2003). In conclusion, the results of the confirmatory factor analysis of BANPS items suggested an acceptable fit.

The confirmatory factor structure of the BANPS is shown in table 10.

Table 8

Factor Loadings and Communalities for Varimax (Orthogonal) Rotation Six-Factor Solution for BANPS Items (N= 873)

Scale	Item	Factor Loading						Communality
		1	2	3	4	5	6	
Seek	3			.655				.519
Seek	21							.126
Seek	25			.641				.467
Seek	28	.652						.575
Seek	31	.752						.618
Seek	33	.661						.486
Play	1		.661					.544
Play	9		.338					.172
Play	13		.695					.576
Play	19		.664					.552
Play	22		.433					.288
Play	29		.456					.291
Care	4		.448					.220
Care	14		.318					.193
Care	16							.203
Care	27		.443					.307
Fear	6				.534			.398
Fear	15						.550	.479
Fear	17				.506		.330	.457
Fear	23						.493	.434
Fear	30				.385			.326
Anger	2					.341	.303	.296
Anger	5							.157
Anger	11					.729		.609
Anger	20					.670		.518
Anger	24					.389		.321
Anger	26						.414	.316
Sadness	7				.891			.862
Sadness	8				.855			.823
Sadness	10						.631	.443
Sadness	12						.561	.512
Sadness	18						.739	.568
Sadness	32						.768	.674

Note. Factor loadings <.3 are suppressed.

Table 9*Exploratory Factor Analysis of Higher-Order Factor Structure of ANPS and BANPS*

Factor Loading			
Scale	1	2	Communalities
	Positive Affect	Negative Affect	
ANPS			
Seek	.748		.560
Play	.777		.640
Care	.718		.562
Fear		.886	.785
Anger		.735	.559
Sadness		.853	.744
BANPS			
Seek	.637		.418
Play	.791		.647
Care	.769		.592
Fear		.838	.737
Anger		.668	.447
Sadness		.850	.733

Table 10*Confirmatory Factor Structure of BANPS*

Scale	Item	Seek	Play	Care	Fear	Anger	Sadness
Seek	3	.526					
Seek	21	.440					
Seek	25	.476					
Seek	28	.624					
Seek	31	.566					
Seek	33	.545					
Play	1		.642				
Play	9		.512				
Play	13		.668				
Play	19		.640				
Play	22		.586				
Play	29		.510				
Care	4			.471			
Care	14			.522			
Care	16			.565			
Care	27			.524			
Fear	6				.552		
Fear	15				.607		
Fear	17				.625		
Fear	23				.632		
Fear	30				.543		
Anger	2					.458	
Anger	5					.382	
Anger	11					.398	
Anger	20					.403	
Anger	24					.421	
Anger	26					.419	
Sadness	7						.665
Sadness	8						.654
Sadness	10						.592
Sadness	12						.612
Sadness	18						.590
Sadness	32						.653

Note. Factor loadings <.3 are suppressed.

3.4.2. Criterion Validity

In order to assess criterion validity, the correlations between scales of ANPS and BANPS and ANPS and BANPS scales' correlations with external measures (BFI, PANAS, ERQ) were examined.

3.4.2.1. Correlations Between the ANPS and BANPS Scales

All participants' mean scores in each scale of the original form (ANPS) and brief form (BANPS) were calculated to compare the correlations between the scales. Table 11 demonstrates all correlations between the two scales.

The results of the between-scale correlations indicated strong correlations for Play, Fear, Anger, and Sadness scales, as well as moderate correlations for Seek and Care scales between ANPS and BANPS.

Table 11

Correlations Between the Scales of BANPS and ANPS for All Participants (N=873)

		BANPS					
		Seek	Play	Care	Fear	Anger	Sadness
ANPS	Seek	.581**	.238**	.238**	.016	.049	-.108**
	Play	.209**	.685**	.386**	-.077*	-.092**	-.273**
	Care	.179**	.273**	.552**	.150**	-.017	.052
	Fear	.048	-.064	.050	.729**	.387**	.563**
	Anger	.134**	.041	.031	.376**	.723**	.329**
	Sadness	-.042	-.082*	.056	.561**	.364**	.711**

* $p < .05$, ** $p < .001$.

In terms of the Young Adult sample, the computed correlations between ANPS and BANPS scales yielded strong correlations for Play, Fear, Anger and Sadness

scales and moderate correlations for Seek and Care scales. Table 12 shows all correlations between ANPS and BANPS scales.

Table 12

Correlations Between the Scales of BANPS and ANPS for Young Adult Participants(N=296)

		BANPS					
		Seek	Play	Care	Fear	Anger	Sadness
ANPS	Seek	.600**	.183**	.154*	.002	.033	-.138*
	Play	.174**	.731**	.396**	-.044	-.056	-.298**
	Care	.128*	.335**	.613**	.153**	-.085	.030
	Fear	.162**	-.046	.083	.690**	.350**	.469**
	Anger	.220**	.046	-.108	.291**	.717**	.252**
	Sadness	.048	-.087	.069	.506**	.249**	.719**

* $p < .05$, ** $p < .001$.

When the correlations between ANPS and BANPS scales were computed for the Adult sample, the results showed strong correlations among Play, Fear, Anger, and Sadness scales and moderate correlations for Seek and Care scales. All of the correlations between ANPS and BANPS scales are presented in Table 13.

Table 13*Correlations Between the Scales of BANPS and ANPS for Adult Participants (N=577)*

		BANPS					
		Seek	Play	Care	Fear	Anger	Sadness
ANPS	Seek	.575**	.260**	.283**	.007	.055	-.102*
	Play	.231**	.654**	.372**	-.135**	-.122*	-.288**
	Care	.206**	.232**	.512**	.136**	.019	.055
	Fear	-.002	-.116**	.013	.733**	.406**	.604**
	Anger	.095*	.016	.095*	.399**	.728**	.359**
	Sadness	-.085*	-.118**	.031	.567**	.424**	.700**

* $p < .05$, ** $p < .001$.**3.4.2.1. Correlations Between BANPS Scales and External Measures**

Correlations between BANPS scale scores and the subscale scale scores of BFI, PANAS, and ERQ were calculated.

The examination of the relationship between BANPS scales and subscales of BFI yielded that Play was correlated positively with Extraversion, Agreeableness, and Openness to Experience while it was negatively correlated with Neuroticism for all samples.

For all samples, Seek was found to be positively correlated with Openness to Experience and Conscientiousness. For all participants and adults, Seek was indicated to be associated with Extraversion. Although weakly, Seek and Agreeableness were found to be significantly correlated only for the Adult sample.

The Care was found to be associated significantly and positively with all dimensions measured by BFI except neuroticism, namely with Agreeableness, Extraversion, Openness to Experience, and Conscientiousness for all participants, adults and young adults.

In terms of negative scales of BANPS, significant positive relationships were shown between Neuroticism and Fear, Anger, and Sadness scales for all samples.

For all samples, Fear was negatively correlated with Extraversion. Also, Fear was shown to be negatively correlated with Agreeableness and Conscientiousness for all participants and adults.

For Anger, significant negative correlations were computed with Agreeableness and Conscientiousness for all samples.

Sadness was found to be significantly and negatively correlated with Extraversion, Agreeableness and Conscientiousness for all of the three samples.

In terms of the correlations between BANPS and PANAS Scales, for all samples, Positive Affect was shown to be positively associated with Play, Seek and Care while it was negatively correlated with Fear and Sadness.

Negative Affect was correlated positively with Fear, Anger, and Sadness in all samples. It was also negatively correlated with Play for the all samples.

The results of the correlations between BANPS and ERQ displayed that the Reappraisal was correlated positively only with Seek for all participants and young adults, whereas it was negatively correlated with Care, Fear, Anger, and Sadness for all participants and adults; and with Care in the young adult sample.

The Suppression was correlated positively with Play and Seek in all participant and adult samples and only with Seek in young adult sample while it was negatively correlated with Fear, Anger, and Sadness for all participants and adults and

only with Anger for young adults. All correlations of ANPS and BANPS scales with BFI, PANAS, and ERQ are presented in Table 14 (for All Participants), Table 15 (for Young Adults,) and Table 16 (For Adults).

3.4.2.1. Correlations Between ANPS Scales and External Measures

As well as BANPS, correlations between ANPS scale scores and the subscale scale scores of BFI, PANAS, and ERQ were investigated.

The correlations between ANPS scales and BFI subscales exhibited that Play was correlated positively with Extraversion, Agreeableness and Openness to Experience and negatively with Neuroticism for all samples.

Seek was found to be correlated with all of the Five dimensions of BFI for all participants and adults. The correlations of Seek with Extraversion, Agreeableness, Conscientiousness, and Openness to Experience were positive while with Neuroticism, results yielded negative correlations.

Care was exhibited to have positive correlations with Extraversion, Agreeableness, and Openness to Experience for all samples, and positive correlations were computed in all participants and adults with Conscientiousness.

Positively correlated relationships were calculated between Neuroticism and Fear, Anger, and Sadness for all samples.

Also, for all samples, Fear was shown to be negatively correlated with Extraversion, Agreeableness, and Conscientiousness.

Besides Neuroticism, Anger was also positively correlated with Openness to Experience in all participants and young adults. For all samples, Anger was found to be negatively associated with Agreeableness and Conscientiousness.

Likewise Fear, Sadness also was shown to be negatively correlated with Extraversion, Agreeableness and Conscientiousness for all samples.

As for correlations with PANAS scales, Positive Affect was shown to be positively correlated with Play, Seek and Care whereas it was negatively correlated with Fear and Sadness in all samples.

Negative Affect was indicated to be correlated positively with Fear, Anger and Sadness and negatively with Play for all samples. Also, only for adult participants, a positive correlation was indicated between Care and Negative Affect.

The relationships between ANPS and ERQ scales revealed that the Reappraisal was correlated negatively with Fear, Anger, and Sadness in all samples, and it was correlated positively with Seek for all participant and young adult groups.

The Suppression yielded positively correlated relationships with Seek for all samples, also with Play but only for all participants and adults. The relationships between Suppression and Fear, Anger, and Sadness were shown to be negatively correlated in all groups. All correlations were presented in Tables 14, 15, and 16.

Table 14*Correlations Between BANPS Scales and BFI, PANAS, and ERQ Scales for All Participants (N= 873)*

Scale	BANPS						ANPS					
	Seek	Play	Care	Fear	Anger	Sadness	Seek	Play	Care	Fear	Anger	Sadness
BFI												
Extraversion	.177**	.474**	.321**	-.201**	-.046	-.312**	.273**	.471**	.234**	-.272**	-.002	-.272**
Agreeableness	.032	.256**	.410**	-.138**	-.388**	-.221**	.096**	.304**	.367**	-.184**	-.347**	-.172**
Conscientiousness	.182**	-.040	.111**	-.182**	-.131**	-.277**	.245**	.003	.093**	-.216**	-.171**	-.308**
Neuroticism	.003	-.153**	-.048	.533**	.545**	.583**	-.067**	-.233**	.003	.692**	.602**	.617**
Openness to Experience	.489**	.215**	.174**	.015	.009	-.035	.537**	.228**	.244**	.006	.098**	-.043
PANAS												
Positive Affect	.282**	.235**	.214**	-.212**	-.060	-.302**	.336*	.300**	.197**	-.212**	-.040	-.299**
Negative Affect	-.006	-.114**	-.006	.492**	.406**	.546**	-.045	-.187**	.049	.591**	.449**	.568**
ERQ												
Reappraisal	.082*	-.003	-.134**	-.147**	-.193**	-.073**	.093**	.015	-.052	-.168**	-.220**	-.151**
Suppression	.144*	.096**	-.043	-.133**	-.222**	-.117**	.150**	.124**	.044	-.178**	-.230**	-.160**

* $p < .05$, ** $p < .001$

Table 15

Correlations Between BANPS Scales and BFI, PANAS and ERQ Scales for Young Adults (N= 296)

Scale	BANPS						ANPS					
	Seek	Play	Care	Fear	Anger	Sadness	Seek	Play	Care	Fear	Anger	Sadness
BFI												
Extraversion	.098	.537**	.366**	-.131*	.006	-.263**	.219**	.571**	.354**	-.177**	.072	-.197**
Agreeableness	-.077	.279**	.477**	-.091	-.463**	-.200**	.025	.357**	.482**	-.166**	-.424**	-.153**
Conscientiousness	.188**	-.076	.144*	-.078	-.126*	-.275**	.277**	-.001	.113	-.138*	-.226**	-.302**
Neuroticism	.056	-.218**	-.074	.491**	.506**	.603**	-.050	-.261**	-.037	.683**	.601**	.626**
Openness to Experience	.564**	.163**	.157**	.049	.046	-.052	.562**	.262**	.242**	.065	.158**	-.014
PANAS												
Positive Affect	.237**	.209**	.175**	-.171**	-.018	-.309**	.354**	.337**	.213**	-.179**	-.036	-.310**
Negative Affect	.106	-.157**	-.114	.410**	.357**	.527**	-.025	-.226**	-.042	.566**	.469**	.563**
ERQ												
Reappraisal	.139*	-.048	-.128*	-.077	-.097	-.026	.123*	-.006	-.041	-.117*	-.164**	-.124**
Suppression	.165**	.050	-.032	-.063	-.125*	-.107	.165**	.108	.064	-.151**	-.199**	-.140*

* $p < .05$, ** $p < .001$

Table 16*Correlations Between BANPS Scales and BFI, PANAS and ERQ Scales for Adult Participants (N= 577)*

Scale	BANPS						ANPS					
	Seek	Play	Care	Fear	Anger	Sadness	Seek	Play	Care	Fear	Anger	Sadness
BFI												
Extraversion	.214**	.461**	.304**	-.227**	-.072	-.336**	.308**	.431**	.172**	-.314**	-.033	-.306**
Agreeableness	.088*	.262**	.379**	-.151**	-.342**	-.227**	.145**	.288**	.304**	-.184**	-.298**	-.172**
Conscientiousness	.184**	.013	.115**	-.194**	-.126**	-.257**	.248**	.040	.100*	-.217**	-.119**	-.283**
Neuroticism	-.020	.159**	-.052	.533**	.566**	.567**	-.090*	.255**	.010	.685**	.594**	.600**
Openness to Experience	.456**	.248**	.187**	.007	-.008	-.023	.529**	.218**	.249**	-.014	.075	-.051
PANAS												
Positive Affect	.307**	.276**	.251**	-.213**	-.078	-.286**	.337**	.304**	.198**	-.210**	-.026	-.278**
Negative Affect	-.057	.123**	-.056	.515**	.430**	.549**	-.067	.195**	.089*	.592**	.428**	.558**
ERQ												
Reappraisal	.059	.018	-.139**	-.180**	-.239**	-.098*	.079	.025	-.058	-.193**	-.248**	-.166**
Suppression	.136**	.109**	-.055	-.178**	-.272**	-.132**	.140**	.126**	.030	-.206**	-.254**	-.182**

* $p < .05$, ** $p < .001$

4. DISCUSSION

The aim of the present study was to adapt the BANPS to Turkish culture. For this purpose, the reliability and validity of the Turkish version of BANPS were assessed by adhering to the methods outlined in the original BANPS study (Barrett et al., 2013) and the Turkish adaptation study of the ANPS (Özkarar-Gradwohl et al., 2014). Additionally, since this study was executed with 873 participants with a broader age range (18-65 years) than the original study, which was conducted only with undergraduate students, the majority of the analyses carried on for three samples: all participants (18-65 years), young adults (18-25 years), which corresponds to the sample used in the original study, and adults (26-65 years).

The relationship between the age of the participants and their ANPS and BANPS scale scores presented that as the age increases, the scores on the Play, Fear, Anger, and Sadness scales tend to decrease. Comparing the adult and the young adult sample scale scores also yielded similar results, with young adults getting higher scores in the Play, Fear, Anger, and Sadness scales of the ANPS and Play, Care, Fear, and Sadness scales of the BANPS. The same differences were obtained for both scales when the comparisons of the scale scores between female adults and young female adults were made. However, among male participants, the significant differences in scale scores between adults and young adults were decreased to two scales in ANPS (Play and Fear) and a single scale (Fear) in BANPS, with young adults getting higher scores in both scales.

The literature on the issue of the relationship between age and ANPS scales is quite scarce since the studies with ANPS scales were mostly conducted with university students. Even though there are some studies conducted with broader age groups (Geir, 2014; Orri, 2016), these studies generally do not focus on the

relationship between the age of the participants and the scale scores. However, findings from the present study can be viewed as compatible with the Turkish standardization study of the ANPS (İçöz, 2012; Özkarak-Gradwohl et al., 2014), in which the obtained scores depicted to differ between student and adult samples in favor of the students in Play, Seek, Fear, Anger and Sadness scales. In addition, even though their study sample consisted only of university students, Deris and colleagues (2017) also reported significant negative correlations between participants' age and their scores on the Care, Fear, and Sadness scales in ANPS.

The observed decrease in the negative scales' scores in older adults can be explained by a pattern called the "age-related positivity effect" (Mather, 2016; Mather & Carstensen, 2005). Neuroscientific and behavioral research on this effect revealed that prefrontal activation (especially ventromedial PFC and anterior cingulate cortex) during the processing of negative emotional stimuli increases with age, resulting in older adults' being emotionally more stable, more able to regulate their affects, and reduce daily stress than younger adults (Dolcos et al., 2014; Nashiro et al., 2012). The lower Play scores in the adult sample might be connected to the age-related decrease in the density of the receptor availability of endogenous opioids, which are the neuropeptides that have been proven to promote Playful behaviors in subcortical areas of the human brain (Kantonen et al., 2020). Taken together, the findings from the present study and related research suggested that age should be considered an essential variable while executing research in affective neuroscience.

In terms of gender differences, among all participants, females appear to be having significantly higher scores on the ANPS scales of Care, Fear, and Sadness. In BANPS, in addition to the Care, Fear, Sadness scales, the Play scale also implicated gender differences, with women scoring higher than men. In the young adult sample,

females seem to be experiencing significantly higher levels of Care, Fear, and Sadness in ANPS, just as depicted in all participant samples. In contrast, females scored higher only on Care and Fear in BANPS, showing that the number of scales with significant gender differences decreased in young adults compared to all participants, unlike the ANPS. Concerning the adult sample, female participants were shown to be getting significantly higher scores than males in the Care and Fear scales of ANPS and Fear and Sadness scales of BANPS. Since none of these gender differences reached or exceeded the standard deviation value, they were considered modest gender effects.

Gender differences found in the ANPS were in conformity with the literature (Cwojdzńska & Rybakowski, 2016; Geir et al., 2014; Narita et al., 2017; Reuter et al., 2017). Although the standardization study of the Turkish version of ANPS reported significant differences additionally for the Play scale and considered this difference “culture-specific,” the current study showed a significant gender effect in Play only in the BANPS. Similarly, Geir and colleagues (2014) also revealed gender differences in the Play scale of BANPS, with women scoring higher, yet no significant gender differences were stated in the Play scale of ANPS.

Except for the Anger scale, findings of the present study in all participant samples were compatible with the original study of the BANPS in which modest but significant gender differences were reported in the Play, Care, Fear, Anger, and Sadness scales, in the female direction.

The significant gender differences in all BANPS scales, with the exceptions of the Anger and Seek scales, can be interpreted in the light of the recently published systematic review by Özkarakar-Gradwohl and Turnbull (2021), in which they examined the gender differences shown in standardization studies of ANPS scales in

15 countries. Consistent with the findings of the present study, this systematic review indicated that the Anger and Seek scales yielded no significant gender differences in studies of 13 countries out of 15. Considering that the SEEKING system energizes all other affect and affective life itself, it can be concluded that Seek scale is not expected to reflect any gender effect. Yet, the absence of gender differences in the Anger scale seems to contradict the generally accepted belief that men are more aggressive than women and also with the report of the United Nations stating the majority of the violent crimes were committed by men on a worldwide scale (UN Office on Drugs and Crime [UNODC], 2019). The extensive research on aggression also supported males are more physically aggressive than females. However, when it comes to verbal and indirect forms of aggression, women are shown to be engaging in the same or greater levels of indirect aggression (for a review, see; Denson et al., 2018). Therefore, women and men are exhibited to experience similar levels of Anger; nevertheless, with the impact of gender roles shared across cultures, they differ in the forms of aggressive behaviors they tend to use to express their Anger. As the Anger scale was created to assess the Anger experienced in the affective -not reactional- dimension, the lack of difference between genders in the present study is compatible with the previous research.

As in the results of the present study, Care and Sadness reported indicating gender differences in the direction of women in studies from nearly all countries, according to the findings of Gradwohl-Özkarar and Turnbull's (2021) meta-analysis. These results are in line with Panksepp's Affective Neuroscience theory. Panksepp (1998) asserted that throughout evolution, the central role of the CARE system has been priming the mammalian brain to nurture, feel a special affection for their offspring, and foster maternal behaviors. Correspondingly, females of the mammalian

species are shown to have higher CARE system activity and stronger CARE urges than males (de Jong et al., 2009), which explains the higher scores in females. Also, neuroanatomically, a part of the CARE system intertwined with the GRIEF system and Sadness (separation anxiety) generated by the GRIEF system was shown to increase the CAREful affects in adults (Panksepp & Biven, 2012). This neural interaction between two primary affective systems might be reflected in the higher Sadness and Care scores in females.

As in the Turkish version of ANPS, the results of the present study pointed out significant gender differences for the Play scale in favor of females. Özkara-Gradwohl and Turnbull (2021) suggested that the gender differences on the Play scale seem to be specific to the culture without showing an evident pattern across western/eastern countries, and the Play scale should be considered together with its intercorrelation with other scales. Both in the present study and Turkish ANPS, the Play showed its strongest correlation with Care, and both scales revealed a gender difference in the direction of women. Considering both Play and Care affects involve being in a relationship with someone else, namely having fun in social interactions as in Play or showing affection and giving care for someone as in Care, these gender differences might be associated with women having more collectivistic tendencies than men in the Turkish culture (Dirilen-Gumus & Buyuksahin-Sunal, 2012; Yetim, 2003).

The fact that all detected gender differences were in favor of females is in line with the previous studies based on self-report data that suggested women experience positive and negative affects with more intensity than males, and the gender disparities were highest for negative emotions, particularly for Fear (for a review, See, Whittle et al., 2011). Fugate and colleagues (2009) pointed out that there might be an

effect of women being more facile in using emotional language on the results suggesting women were more emotional on self-report measures. The data from behavioral and physiological studies also confirmed that women are more reactive to emotional stimuli than men, besides men and women are reported to differ more drastically if the stimuli are undesirable or threatening (Lithari et al., 2010; Vigil, 2009).

Additionally, the neuroimaging studies investigating the brain's response to emotional stimuli helped put the results obtained on the self-report scale indicating women being greater in Fear and Sadness on a scientific basis. Research revealed that females showed increased amygdala activity during processing negatively valenced stimuli relative to men (Kret & de Gelder, 2012). Furthermore, after repeated presentations of negative stimuli, females showed persistent amygdala responses toward familiar negative stimuli while males exhibited declined amygdala response, suggesting women's reaction to negatively valenced emotional stimulus persists for a significantly longer time than men's habituation time. Moreover, this persistent amygdala response was found to be positively correlated with self-reported depressive and anxiety symptoms (Andreano et al., 2014). These results and women's being greater Fear and Sadness seem to be compatible with each other.

The gender differences shown for all participants were not completely found replicable for young adult and adult samples in BANPS. However, we believe it would not be safe to make inferences about gender differences based on these samples since the number of participants (especially males) in these samples would not be enough to capture the modest differences seen in the population they presented.

In regard to individual scales of the Turkish version of BANPS, Cronbach's alpha values of the individual scales found to be in range of .59 and .83. These

reliabilities shown to be comparable to the results of the original BANPS study (Barrett et al., 2013). In the present study, the Seek, Play, Care, and Anger scales' reliability coefficients were below the values obtained in the original BANPS study and thus needed to be improved. Barrett et al. (2013) asserted that the individual BANPS scales exhibited enhanced reliabilities relative to ANPS (in which alpha reliabilities were in the range .65 and .85) (Davis et al., 2003). Likewise, excluding Care, results of the present study obtained for primary dimensions of BANPS indicated better reliability compared to the Turkish version of ANPS (where Cronbach's alphas were between .55 and .73).

With respect to inter-scale correlations, positive scales (Seek, Play and Care) were shown to be significantly and positively correlated with each other, and negative scales (Fear, Anger, Sadness) also displayed significant positive associations with each other in BANPS. These obtained intercorrelations among positive and negative scales replicated the patterns in the original ANPS and BANPS studies, and this pattern was confirmed in the various studies suggesting there might be cross-culture commonality of the higher-order factor (as positive affect and negative affect) structure of the scale (Abella et al., 2011; Amiri & Azad-Marzabadi, 2017; Geir et al., 2014; Giacolini et al., 2017; Montag et al., 2017; Narita et al. 2017; Özkarak-Gradwohl et al., 2014; Pahlavan et al., 2008; Pingault et al., 2012; Reuter et al. 2017).

Theoretically, each of the ANPS scales is proposed to reflect underlying distinct and separate primary affective systems though they might interact with each other (Davis et al., 2003). However, even though they are anatomically distinct, some primary neural systems are more closely related and interact more with some systems than other systems (Panksepp, 1998). Therefore, the significant inter-scale correlations should reflect the relationships between underlying neural systems. To

this end, the inter-scale correlations in the Turkish version of BANPS were reduced as compared to Turkish ANPS, while the inter-scale associations which correspond to the interactions between underlying affective systems were maintained.

The Seek score was correlated weakly and positively with Fear and Anger scores in all participants and young adult samples. The fact that these correlations are not seen in the adult sample can be interpreted as the relationships of these affective expressions, which were at a low level in the first place, might decrease further with age. The association of Seek with Fear and Anger is also confirmed in the Turkish version of ANPS. İçöz (2012) argued that these correlations implicated that a person with personality traits such as being curious, exploratory, and achievement-oriented can also experience feelings of anxiety, frustration, and anger. Additionally, Deci and Ryan (2000) suggested that when the systems such as FEAR become active, SEEKING can be used as a backdoor method to meet a person's psychological, physical, and social requirements, which might also explain the correlations of Seek with Fear and Anger. In other words, SEEKING system is perceived to be largely involved in fight-and-flight response, which can be initiated by feelings of fear and anger (Panksepp, 1998).

Considering the correlations between positive and negative scales, Play and Sadness were negatively and weakly related to each other in all samples. This correlation was also manifested in the original work of the ANPS and BANPS, as well as the Turkish version of the ANPS. When evaluated within the framework of Affective Neuroscience theory, this result seems predictable since the activity of the PLAY system is shown to be suppressed by feelings of social loss, anxiety, and separation distress (Sadness) generated by the PANIC/GRIEF system (Panksepp & Biven, 2012) and the under-activation of the PLAY system in the childhood indicated

to be associated with depression in adulthood (Panksepp, 2008b). Moreover, neurochemically the PLAY system is shown to be fueled by endogenous opioids (Trezza et al., 2012), whereas the scarcity of endogenous opioids is shown to be directly involved with depression (Peciña et al., 2018), providing further explanation for the negative Play-Sadness relationship observed in ANPS forms.

A positive relationship between Care and Fear was identified in all samples. This correlation might be explained by the help of the evolutionary roots of the neural affective systems that these scales reflect. From this point of view, since the FEAR system evolved to protect the organism from the situations in which they might experience physical pain or harm and the CARE system evolved to nurture and give care to the others to ensure their survival, it can be concluded that caring for someone also includes being afraid of the dangers that may happen to the ones they care and trying to protect them from these threats.

Exploratory factor analyses of the Turkish version of the BANPS were conducted in accordance with the methodology outlined in the original BANPS study (2013). Firstly, a factor analysis was carried out to investigate whether or not the scale reflects its theoretical basis. Accordingly, the factor structure of the scale was explored with selecting a 6-factor solution so that the items could be loaded onto the factors that are expected to reflect affective dimensions on a theoretical basis. Additionally, since the item-total correlation coefficient was suggested to be above the cut-point of .30 (Field, 2003; Kline, 2011) to be considered acceptable, values below .30 were suppressed in the factor analysis. Since some items were found to be loaded on the other factor that has a high correlation with the intended factor instead of the target factor in this exploratory factor analysis, further confirmatory factor analysis executed with cross-loadings of the items onto non-intended factors were set

to zero in the model. When items are loaded only on their primary factors, the item-total correlations of all items were shown to be above .30, and the factor loadings were increased compared to the loadings computed in exploratory factor analysis. Consequently, the factor structure of the Turkish version of BANPS was found to be parallel to the factor structure of the original BANPS.

Both ANPS and BANPS scales were shown to also have two higher-level factor structures comprising the Positive Affect factor (including Seek, Play, and Care) and Negative Affect factor (Fear, Anger, Sadness). To test the replicability of this higher-level factor structure in Turkish BANPS, as in the original BANPS study, exploratory factor analyses were performed both for BANPS and ANPS scales, and their factor structures were compared using Tucker's congruency coefficient (TCC). The results of these analyses confirmed the higher-order affect structure of ANPS and BANPS in the present study. In regard to the examination of the similarity between the higher-level factor structure of ANPS and BANPS, computed TCC values indicated that both Positive Affect and Negative Affect factors can be considered compatible between ANPS and BANPS. In the original BANPS study, Negative Affect was shown to be identical between forms, whereas Positive Affect was found to be fairly similar between ANPS and BANPS. Hence, it can be concluded the present study showed consistent higher-order factor structures between ANPS and BANPS forms by increasing the TCC value obtained for Positive Affect in the original study.

The correlations between the scales of ANPS and BANPS were examined for all participants, young adults, and adults. Correlations between ANPS and BANPS for each scale yielded moderate to strong correlations (r values ranging between .51 to .73) for all samples. Although the correlations between forms were shown to be

greater ($r = .73$ to $.92$) in the original BANPS study compared to the present study, the researchers stated that the calculated between-form reliabilities possibly overinflated due to the fact that BANPS scores were computed via selecting some items from the same ANPS form (Davis & Panksepp, 2011). Therefore, it can be advocated that the between-forms correlations for individual scales of ANPS and BANPS are expected to be lower in studies that present ANPS and BANPS separately (such as the present study) compared to the values depicted in the original study and accept the between-forms reliabilities set forth in the original study as the expected values would not be safe to make inferences.

However, the between-form correlations in Care and Seek scales were found to be lower than those observed in other scales in the present study, and they indicated moderate between-form correlations while other scales yielded strong between-form correlations. The reason for this might be related to the creation process of Care and Seek scales in BANPS. As stated earlier, the number of items in the Care scale of the BANPS was pruned down to 4 items with adding a new Care item while three items were imported from the ANPS, resulting in a significant decrease in the number of shared items between two forms. Similarly, in terms of the Seek scale, although the number of items was reduced to 6 items as the other scales in BANPS, only 4 of the items were the same as in the ANPS, and 2 of the items were newly added to the Seek scale of BANPS. Therefore, although the selected items to create Seek and Care scales of BANPS might successfully reflect the construct represented by that scale, the lower between-form reliabilities could be associated with this reduction of the item shareability between ANPS and BANPS.

In the original study, the correlation analyses were performed between BANPS scales and BFI, AVI, ERQ, PANAS-X, NPI, Pride, RSE, and SPS to test the

criterion validity, and the results were generally shown to be significant (Barrett et al., 2013). In the present study, to avoid causing further respondent fatigue, BFI, PANAS, and ERQ scales were selected from the scales used in the original study to assess the criterion validity of the Turkish BANPS for all samples. Correlations between ANPS and BFI, PANAS, and ERQ also were calculated to compare with the BANPS.

Starting from the construction of the first ANPS scale (Davis et al., 2003), the individual variations in the primary affective systems assessed through ANPS scales have been reliably shown to be associated with Big Five personality factors (Marengo et al., 2021). In the present study, the Extraversion trait showed a moderate positive correlation with Play, weak and positive correlations with Seek and Care, and small negative correlations with Fear and Sadness in all samples. Concerning Agreeableness, moderate positive correlations were depicted with Care, weak and positive correlations with Play, and weak to moderate negative correlations were shown with Anger and weak negative correlations with Sadness and Fear (except in the Young Adult sample in which no significant correlation indicated) in all samples. Regarding Conscientiousness, findings demonstrated weak and positive correlations with Seek and Care in all samples and small negative correlations with Fear (except Young Adult sample), Anger and Sadness in all samples. Neuroticism was found to be moderately and positively correlated with all negative scales of BANPS and weakly and negatively associated with Play. The Openness to Experience component yielded moderate and positive correlations with Seek and weak and positive correlations with Play and Care. These correlations between BANPS scales and BFI traits were also congruent with the correlations obtained for ANPS scales in the present study. Moreover, in both ANPS and BANPS, the highest correlations were found between Play and Extraversion, Seek and Openness to Experience, Care and

Agreeableness, Fear, Anger and Sadness, and Neuroticism. These findings were in line with the original ANPS and BANPS studies, the Turkish ANPS study, as well as the results of the meta-analytic research conducted on the correlations between ANPS scales and Big Five traits (See, Marengo et al., 2021).

In the original paper of the ANPS (Davis et al., 2003), the researchers hypothesized that the Big Five markers of the personality potentially were built on the foundation of the six primary affective systems in the brain. That is to say, individual variances in the primary affective systems are most likely to reflect evolutionary underpinnings of human personality, with high PLAY system activity presenting a foundation for Extraversion, high SEEKING system activation for Openness to Experience, high CARE, and low ANGER system activation for Agreeableness and high FEAR, ANGER, SADNESS system activity providing a basis for high Neuroticism (Montag et al., 2021). Despite the fact that the findings of the present study were merely on a conceptual level, the associations we obtained between ANPS and BFI dimensions, as numerous other observations in various samples, appeared to confirm this hypothesis by offering further correlational evidence.

The expected relationships between BANPS and PANAS scales were upheld in all samples with detected positive correlations between positive scales of BANPS and Positive Affect (PA) as well as negative scales of BANPS and Negative Affect (NA). When comparing the original study, the strength of the correlations we obtained between positive BANPS scales and PA was found to be very close to the original study, while the correlation strength between negative BANPS scales and NA was shown to be increased compared to the original study.

In addition, negative correlations were observed between Play and Negative Affect, and between Fear and Sadness and Positive Affect, in all samples. In the

original study, the researchers reported significant negative relationships between all positive scales of BANPS and NA, and between all negative scales of BANPS with PA. However, in the present study, the negative correlations of NA with Seek and Care were not as strong as it is with Play, and similarly, the negative correlations of PA were weaker for Anger compared to Fear and Sadness. Therefore, it can be concluded that if the number of participants in the young adult sample of the current study (as it covers the same age group as the original study) was larger, these BANPS-PANAS scale correlations would be stronger. Also, all correlations between BANPS and PANAS were replicated in the relationship between ANPS and PANAS scales in the present study.

The relationships between ERQ and BANPS scales yielded complicated results for all samples in the present study. In the original study, predicted relationships between ERQ and BANPS were confirmed with positive correlations between positive BANPS scales and Reappraisal and between negative BANPS scales and Suppression (Barrett et al., 2013). However, the findings of the present study failed to reflect this pattern. In the present study, Reappraisal was found to be positively correlated with Seek and Care in all participant samples and Seek scale in the young adult sample. The Reappraisal was negatively correlated with Fear, Anger, and Sadness in all participant samples, and in the adult sample, the Care was added to the list besides negative BANPS scales. In the young adult sample, only the Care scale generated negative correlations with Reappraisal. The Suppression was positively correlated with Seek in all samples. There was also a positive correlation between Suppression and Play in the overall sample as well as the adult sample. In terms of negative associations, Fear, Anger, and Sadness were negatively associated with Suppression in the adult sample as well as the overall sample; however, in the

young adult sample, only Anger was significantly and negatively correlated with Suppression. The correlations between ANPS scales and ERQ dimensions also presented similar results. The fact that Suppression generated negatively correlated relationships with negative scales of BANPS and positively correlated relationships with some of the positive BANPS scales contradicts the results of the original study.

These contradicting and complicated results might be explained by the fact that the emotion regulation strategy people use depends on several variables, such as cultural background, other than individual tendencies (Ramzan & Amjad, 2017). The research showed that people from collectivistic cultures like Turkey (Balkir et al., 2013), Iran (Butt et al., 2013), and East Asian nations (Matsumoto et al., 1999) were engaged in more Suppression than people from individualistic cultures such as USA, Canada and Australia (Gross & John, 2003; Matsumoto et al., 2008). Furthermore, although Suppression was reported to be related to negative affect in studies, this relationship seems to be specific to the studies conducted with participants from individualistic cultures (Matsumoto et al., 1999; Soto et al., 2011). On the contrary, in the studies conducted with people from collectivistic cultural backgrounds, emotion suppression was shown to have a positive effect on maintaining and increasing social interactions and social adaptation, thus could be self-protective (Butler et al., 2007).

Therefore, findings in the present study that contradict the original study on the relationship between BANPS and ERQ scales might be, at least partly, related to the fact that the sample of the present study reflected emotion regulation practices in a collectivistic culture, whereas the original study reflected those in the individualistic culture.

4.1. Implications of the Study

Bringing Turkish version of the Brief Affective Neuroscience Personality Scales to the literature would both accelerate and make important contributions to future genetic, neuroimaging, clinical and behavioral studies aimed at investigating primary affective systems in humans. The fact that Turkish BANPS can be applied more quickly and has strong psychometric properties make the usage of this scale more advantageous than ANPS especially in multi-stage genetic and neurobiological studies and studies conducting with using several scales.

In terms of clinical usage, the Brief Form of Affective Neuroscience Personality Scales (BANPS) would provide the clinician a better recognition of the clients' dominant or some excessive positive or negative affects that are encountered in their psychic pain. The knowledge about clients' strengths and weaknesses in their basic emotional systems would help the clinician to evaluate the client's dispositional placement in emotional-affective space (Davis & Panksepp, 2018). In addition, since the imbalances in the activities of the primary affective systems have negative impacts on the quality of the emotional life of the clients, clinicians can utilize the BANPS to assess individual profiles for gaining more information about the effects of the affective forces which have become imbalanced (Turnbull et al., 2005).

A number of different studies have already demonstrated the utility of an affective personality approach in clinical populations. For instance, Sawaya et al. (2015) reported that patients who went through a major depressive episode had significantly higher scores on ANGER, FEAR, SADNESS scales as well as significantly lower scores on SEEKING and PLAY scales as compared to the control group. In another study conducted with participants with bipolar disorder (BPD), Savitz and colleagues (2008a) showed that both BPD-I and BPD-II diagnosed patients

obtained higher scores in SADNESS and FEAR scores than the participants who did not have a BPD diagnosis. In addition, Karterud et al. (2016) carried out a study to investigate primary affective traits in personality disorders by focusing on borderline and avoidant personality disorders. The results of regression analyses on two personality disorders depicted that patients with Borderline Personality Disorder got higher SEEKING, ANGER and SADNESS scores while avoidant group had higher FEAR scores and lower SEEKING, PLAY, ANGER scores.

Adopting the affective therapeutic perspective in the therapy setting, the clinician would use the information provided by BANPS and affective neuroscience in order to create lasting therapeutic changes in the client's life. These lasting therapeutic changes created by addressing directly client's related primal emotions. This mechanism is particularly manifest when clients go through past emotional experiences again in a secure therapy setting and let themselves experience their "real" feelings within a therapeutic alliance in which both parties (therapist and client) can feel a form of emotional closeness (Abbass, 2006).

Working with the client's primary emotions, the clinician aims that eventually in the psychotherapeutic process the client will learn the ways of strengthening their positive emotional systems and mastering their own emotions, and thereby over time, they can manage to be in emotional homeostasis across different situations (Fosha et al., 2009; Panksepp & Biven, 2012).

4.2. Limitations and Suggestions for Future Studies

There are also several limitations of the present study. The main limitation of this study is the possible decline in the quality of the collected data for subsequent items in the questionnaires due to respondent fatigue (Hess et al., 2012). Since the number of items in the total survey is over 200, it seems very likely that the

reliabilities of the results might have decreased because of the respondent fatigue phenomenon. Therefore, we believe that the validity and reliability values of Turkish BANPS will be found higher in future studies conducted using fewer scales.

Moreover, the presentation of the 110-item ANPS and then the BANPS in the research form might have created a significant order effect, which might have an influence on the results. The participants might have performed worse in BANPS due to the carry-over effect since they might have become tired or bored after responding to ANPS. In order to determine the results of this carry-over effect and to avoid this limitation, an alternative approach could be using a counterbalancing technique, and changing the ordering of ANPS and BANPS through participants.

Since the present study was conducted only with the non-clinical sample, further studies conducted with inpatient and outpatient clinical samples are needed to prove the usability of Turkish BANPS for clinical purposes.

Although the findings of the present study confirmed that Turkish BANPS is a reliable and valid tool to assess personality differences based on the activity of the six primary affective systems, the nature of these results is only exploratory and constructed on correlational associations. Supporting clinical or neuro-imaging research is desirable to demonstrate the correspondence between Turkish version BANPS and primary affective systems in the brain.

4.3. Conclusion

The overall examination of the reliability and validity analyses demonstrated that Turkish BANPS is a reliable and valid tool to utilize in assessing individual differences in primary affective systems in the Turkish non-clinical young adult and adult populations. The Turkish version of BANPS generally managed to replicate the findings presented in the original BANPS study.

Furthermore, the generalizability of the results in the original study was increased in the Turkish version since the sample of the present study is more representative in terms of age and education level than the sample of the original study, which consisted only of undergraduate college students. In the present study, the fact that ANPS and BANPS yielded mostly similar results across the reliability and validity analyses proved that Turkish BANPS is a valid measure of affective personality traits as well as a good alternative to Turkish version of ANPS, particularly due to its practicality.



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Appendix A: Informed Consent Form

Bilgilendirilmiş Onam Formu

Bu araştırma Yeditepe Üniversitesi Dr. Öğr. Üyesi Ezgi Soncu Büyükişcan danışmanlığında, Klinik Psikoloji Yüksek Lisans Programı öğrencisi Nehir Uçar tarafından yürütülmektedir. Çalışmada, bazı kişisel özellikler ve duygulara dair bilgi edinmek amaçlanmaktadır. Bu bağlamda size kişisel özellikleriniz ve duygularınız ile ilgili sorular sorulacaktır. Çalışmada anket soruları ve katılımcıların demografik özelliklerine dair açık uçlu sorular bulunmaktadır.

Araştırmaya tahminen 15-20 dakika ayırmanız istenmektedir. Çalışmanın amacına ulaşması için sizden beklenen, bütün soruları eksiksiz ve size en uygun gelen cevapları işaretleyecek şekilde doldurmanızdır. Vermiş olduğunuz bilgiler yalnızca araştırmacılar tarafından ulaşılabilecektir ve hiçbir veriniz bireysel olarak değerlendirilmeyecek veya puanlanmayacaktır. Çalışmanın hiçbir aşamasında sizden kimlik bilgileriniz alınmayacaktır.

Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Bu formu okuyup onaylamanız araştırmaya katılmayı kabul ettiğiniz anlamına gelmektedir. Ancak çalışmaya katılmama veya katıldıktan sonra herhangi bir anda internet tarayıcınızı kapatarak çalışmayı bırakma hakkına da sahipsiniz. Bu çalışmaya katılmanın sizin açısından herhangi bir risk ya da fayda oluşturması beklenmemektedir. Bu çalışmadan edinilecek bilgiler tamamen araştırma amacı ile kullanılacaktır.

Eğer araştırmanın amacı ile ilgili verilen bu bilgiler dışında daha detaylı bilgi almak isterseniz, nehirucarr@gmail.com e-posta adresine mail atabilirsiniz.

Yukarıda yer alan bilgileri okudum ve katılmam istenen çalışmanın amacını ve gerekliliklerini anladım. Çalışmaya gönüllü olarak katılmayı kabul ediyorum.

Appendix B: Demographic Information Form

Demografik Bilgi Formu

Yaşınız:

Cinsiyetiniz:

- ☐ Kadın
- ☐ Erkek
- ☐ Diğer

Eğitim Düzeyiniz:

- ☐ Okuma-yazma
- ☐ İlkokul (5 yıl)
- ☐ İlköğretim (8 yıl)
- ☐ Lise
- ☐ Önlisans
- ☐ Lisans
- ☐ Yüksek Lisans
- ☐ Doktora

İlkokul 1. sınıftan itibaren toplam kaç yıl eğitim aldınız?

Tanı konulmuş herhangi bir psikolojik/psikiyatrik rahatsızlığınız var mı? Varsa nedir?

Herhangi bir nörolojik rahatsızlığınız var mı? Varsa nedir?

Hiç şuur kayıplı kafa travması geçirdiniz mi?

Appendix C: Affective Neuroscience Personality Scales (ANPS)

Afektif Sinirbilim Kişilik Ölçeği (Affective Neuroscience Personality Scale – ANPS) Türkçe Formu

Özkarar-Gradwohl, F.G., Panksepp, J., İçöz, F. J., Çetinkaya, H., Köksal, F., Davis, K.L. & Scherler, H. N. (2014), The influence of culture on basic affective systems: The comparison of Turkish and American norms on the affective neuroscience personality scales. *Culture and Brain*, 2, (2), 173-192. DOI 10.1007/s40167-014-0021-9

Seçtiğiniz rakamı lütfen (○) şekilde yuvarlak içine alın ve her madde için tek şıkki işaretleyin.

1. Kesinlikle katılıyorum
2. Katılıyorum
3. Katılmıyorum
4. Kesinlikle katılmıyorum

1. Hemen hemen her küçük problem veya bilinmeyen ilgimi çeker	1	2	3	4
2. Beni iyi tanıyanlar benim kaygılı bir insan olduğumu söyleyebilirler.	1	2	3	4
3. Başkalarıyla ilgilenmek ve onlara bakmak için genellikle güçlü bir ihtiyaç hissederim.	1	2	3	4
4. Engellendiğimde çoğunlukla kızgın olurum.	1	2	3	4
5. Kolayca eğlendirilebilen ve bolca gülen biriyim.	1	2	3	4
6. Çoğu zaman kendimi üzgün hissederim.	1	2	3	4
7. Evrenle bir bütün olduğumu hissetmek hayatıma daha fazla anlam katar.	1	2	3	4
8. Hislerim ve duygularımın farkında olmak için çaba gösteririm.	1	2	3	4
9. Özel olayları beklemekten fazla zevk almam.	1	2	3	4
10. Çoğu zaman karar vermekte zorlanmam.	1	2	3	4
11. Bazı insanların yavru hayvanlara karşı sergiledikleri abartılı tutumları çok saçma buluyorum.	1	2	3	4
12. Eğer istediğimi elde etmekte engellenmişsem genellikle durumu olduğu gibi kabullenirim.	1	2	3	4
13. Arkadaşlarım beni muhtemelen çok ciddi biri olarak tanımlarlar.	1	2	3	4
14. Birçok insana kıyasla reddedilmekten daha az etkilenirim.	1	2	3	4
15. Hayatımın anlamı diğer canlılarla bağlantımın olduğunu hissetmekten kaynaklanmaz.	1	2	3	4
16. Zaman zaman az da olsa dedikodu yaparım.	1	2	3	4
17. Yeni deneyimleri yaşamayı beklemekten gerçekten keyif alırım	1	2	3	4
18. Çoğunlukla, fırsat kaçtıktan sonra nasıl yakalayabilirdim diye düşünürüm.	1	2	3	4
19. Çocuklarla ilgilenmek, onlara bakmak hoşuma gidiyor.	1	2	3	4
20. Arkadaşlarım beni muhtemelen fevri (çabuk sinirlenen) biri olarak tanımlarlar.	1	2	3	4
21. Yapılan işi eğlenceli hale getiren biri olarak bilirim.	1	2	3	4
22. Çoğu zaman ağlama isteği duyuyorum.	1	2	3	4
23. Genelde, yaradılışın güzelliğinden manevi bir haz alırım.	1	2	3	4
24. Müzik dinlerken bazen kendimi o kadar kaptırırm ki etrafımda olan biteni bile fark etmem.	1	2	3	4
25. Ulaşılamayacak büyük planlar yerine pratik hedefler seçmeyi tercih ederim.	1	2	3	4
26. Kendimi bir savaşçı olarak tanımlamam.	1	2	3	4
27. Hasta bir insana bakmak bana yük olur.	1	2	3	4
28. Bir şeyleri kırmak isteyecek kadar kızgın olduğum bir zaman hatırlayamıyorum.	1	2	3	4
29. İtiş kakış içeren sert oyunlar genellikle hoşuma gitmez.	1	2	3	4
30. Birçok insana kıyasla daha az üzgün hissediyorum.	1	2	3	4
31. Önemli zorlukların üstesinden gelmek için nadiren maneviyata sığınırım.	1	2	3	4
32. Her zaman doğruyu söylerim.	1	2	3	4
33. Cevabı aramak çözümü bulmak kadar zevklidir.	1	2	3	4
34. Çoğu zaman, kendimi dışarıdakilerin fark ettiğinden daha gergin hissederim.	1	2	3	4
35. Yavru hayvanların yanında olmayı severim.	1	2	3	4
36. Kızdığımda çoğu zaman içimden küfretmek gelir.	1	2	3	4
37. Genellikle iyi zamanları düşünür, mutlu olurum.	1	2	3	4
38. Çoğunlukla yalnız hissederim.	1	2	3	4
39. Bütün canlılarla bir olduğumu hissetmek benim için önemli bir ilham kaynağıdır.	1	2	3	4
40. Sabun köpüğündeki renkler gibi küçük şeylerden keyif almak hoşuma gider.	1	2	3	4
41. Genellikle, hedeflerim hakkında az hevesli ve az beklentili olurum.	1	2	3	4
42. Hayatta çok az sayıda korkum vardır.	1	2	3	4
43. Çocukların etrafında olmaktan özellikle bir keyif almam.	1	2	3	4
44. Engellendiğimde nadiren sinirlenirim.	1	2	3	4
45. Saçmalığa varan esprilerden hoşlanmam.	1	2	3	4
46. Aileme çok bağlıyım.	1	2	3	4
47. Benim için maneviyat içsel huzur ve uyumu sağlayan öncelikli bir kaynak değildir.	1	2	3	4
48. Bazen içimden küfretmek gelir.	1	2	3	4
49. Bir amaç uğruna çaba sarf etmek ve sonucunu beklemekten o amaca ulaşmak kadar zevk alırım.	1	2	3	4
50. Bazen sorunlarım hakkında kaygılanmaktan kendimi alamam.	1	2	3	4
51. Genellikle başı boş kalmış hayvanlara karşı yufka yürekliyim.	1	2	3	4

52. Biri beni kızdırdığında uzun süre etkisinde kalırım.	1	2	3	4
53. Beni tanıyanlar benim eğlenceyi seven biri olduğumu söylerler.	1	2	3	4
1. Kesinlikle katılıyorum 2. Katılıyorum 3. Katılmıyorum 4. Kesinlikle katılmıyorum				
54. Çoğu zaman, sevmiş olduğum, artık yanımda olmayan insanlar hakkında düşünürüm.	1	2	3	4
55. Manevi konular üstünde yoğunlaşmak genellikle içimde güçlü bir hayranlık (duygu seli) ve imkanların sonsuzluğu hissini uyandırır.	1	2	3	4
56. Kendimi hiç şiir yazarak ifade etmeyi denemedim.	1	2	3	4
57. Genellikle sadece çözmüş olmak için problem veya bilinmeyenleri çözmekle ilgilenmem.	1	2	3	4
58. Arkadaşlarım benim cesur olduğumu ve beni korkutmanın zor olduğunu söyler.	1	2	3	4
59. Genelde evde hayvan beslemenin, değiştiğinden daha fazla sorun çıkardığını düşünürüm.	1	2	3	4
60. Beni iyi tanıyanlar benim neredeyse hiç kızmadığımı söyler.	1	2	3	4
61. Şakalaşmaktan özellikle bir keyif duymam.	1	2	3	4
62. Arkadaşlarımın veya ailemin beni onaylamaması beni özellikle üzmez.	1	2	3	4
63. Hayatımın anlam ve amacını manevi değerlerim belirlemez.	1	2	3	4
64. Bir şeyden kaçmak için hiç hasta rolü yapmadım.	1	2	3	4
65. Meraklılığım beni bazen başkalarının boşa harcanan zaman olarak nitelendirdiği şeyleri yapmaya iter.	1	2	3	4
66. Çoğu zaman gelecek hakkında kaygılanırım.	1	2	3	4
67. Evsizler için üzülürüm.	1	2	3	4
68. Birisi yapmak istediğim şeyi yapmama engel olmaya çalışırsa rahatsız olurum.	1	2	3	4
69. Çoğu zaman mutluluk duyarım.	1	2	3	4
70. Sık sık sevdiğim kişileri kaybettiğimi düşünürüm.	1	2	3	4
71. İnsanın bir parçası olduğumu hissetmek beni daha etik seçimler yapmaya iter.	1	2	3	4
72. Şiirsel bir dil veya süslü hitap beni özellikle etkilemez.	1	2	3	4
73. Çıkıp yeni şeyler keşfetme ihtiyacını nadiren duyarım.	1	2	3	4
74. Bende kaygı uyandıran çok az şey vardır.	1	2	3	4
75. Başkalarının bana ihtiyaç duyduğunu hissetmek hoşuma gitmez.	1	2	3	4
76. Birisine vurmayı isteyecek kadar nadiren kızarım.	1	2	3	4
77. Bir çok insanın komik bulduğu şeyler genelde bana komik gelmez.	1	2	3	4
78. Arkadaşlarımdan uzağa gitmek beni üzmez.	1	2	3	4
79. Koyduğum hedefler manevi değerlerimden etkilenmez.	1	2	3	4
80. Hayatımda karanlıktan korktuğum zamanlar olmuştur.	1	2	3	4
81. Yeni bir ortama girdiğimde, hep etrafımı incelemekten ve daha iyi tanımaktan hoşlanırım.	1	2	3	4
82. Çoğunlukla "Doğru kararı veriyor muyum?" diye kaygılanırım.	1	2	3	4
83. Sık sık başkalarını iyi hissettirecek ufak tefek şeyler yaparım.	1	2	3	4
84. Olaylar istediğim gibi gelişmeyince bazen içimden bir şeye tekme atmak veya vurmak gelir.	1	2	3	4
85. Fiziksel temas içerenler dahil her türlü oyundan zevk alırım.	1	2	3	4
86. Arkadaşlarımla olamadığım zamanlar çoğunlukla sıkın ve bunalım hissedirim.	1	2	3	4
87. Manevi değerler sınırlarımı aşmama yardımcı olur.	1	2	3	4
88. Bir film ya da benzeri bir şey izlerken kendimi o kadar kapırıyorum ki sanki onun bir parçasıymışım gibi hissediyorum.	1	2	3	4
89. Sorunları irdeleyip inceleyen biri değilim.	1	2	3	4
90. Geleceğim hakkında nadiren endişelenirim.	1	2	3	4
91. İnsanların benimle duygusal yakınlık kurmalarını özellikle istemem.	1	2	3	4
92. Birine bağırarak isteyecek kadar kızgın hale genellikle hiç gelmem.	1	2	3	4
93. Sadece eğlencesi için oynanan ve açık bir kazanımı olmayan oyunlardan daha az zevk alırım.	1	2	3	4
94. Kaybettiğim insanları ve ilişkileri nadiren düşünürüm.	1	2	3	4
95. "İnsanlara, onların istediği gibi davran" sözü benim hayat görüşüme uymaz.	1	2	3	4
96. Kasten hiç yalan söylemedim.	1	2	3	4
97. Çoğu zaman sanki her şeyi başarabilirmişim gibi hissedirim.	1	2	3	4
98. Çoğu zaman sinirli hissedirim ve gevsemekte güçlük çekerim.	1	2	3	4
99. Başkalarının kayıplarının acılarını çok güçlü bir şekilde hissedebilen bir insanım.	1	2	3	4
100. Bazen, insanların çevirdiği dolambaçlı işler gerçekten sinirlerime dokunur.	1	2	3	4
101. Hayatı, eğlenmek için fırsatlarla dolu olarak görürüm.	1	2	3	4
102. Hüznü ve kayıp acısını güçlü hissedem biriyim.	1	2	3	4
103. Bazen müzik dinlerken tüylerim diken diken olur, ürperirim.	1	2	3	4
104. Çoğu zaman hayat anlamsız gelir.	1	2	3	4
105. Aşırı derecede irdeleyici (araştırmacı) biri değilim.	1	2	3	4
106. Genellikle birşeyler hakkında kaygılanmaktan dolayı uykusuzluk çekmem.	1	2	3	4
107. Pek şefkatli değilim.	1	2	3	4
108. İnsanlar beni sinirlendirdiğinde onlara kötü şeyler söyleme ihtiyacını nadiren duyarım.	1	2	3	4
109. Başkalarıyla birlikte oyunlar oynamak benim için özellikle keyif veren bir şey değildir.	1	2	3	4
110. Başkalarıyla iletişim kurmaktan hemen hemen her zaman mutlu olurum.	1	2	3	4

Appendix D: Brief Form of Affective Neuroscience Personality Scales (BANPS)

Her bir ifadeye ne kadar katıldığınızı veya katılmadığınızı belirtmek için aşağıda gösterilen ölçeği kullanın. Lütfen her ifadeyi dikkatlice okuyun ve mümkün olduğunca dürüst cevap verin.

1. Kesinlikle katılmıyorum
2. Katılmıyorum
3. Kararsızım
4. Katılıyorum
5. Kesinlikle katılıyorum

1. Beni tanıyanlar benim eğlenceyi seven biri olduğumu söylerler.	1	2	3	4	5
2. Engellendiğimde çoğunlukla kızgın olurum.	1	2	3	4	5
3. Genellikle çok meraklı değilimdir.	1	2	3	4	5
4. İnsanlara dokunmayı ve sarılmayı seven bir insanım.	1	2	3	4	5
5. Nadiren birine vurmak isteyecek kadar sinirlenirim.	1	2	3	4	5
6. Geleceğim hakkında nadiren endişelenirim.	1	2	3	4	5
7. Nadiren üzülürüm.	1	2	3	4	5
8. Nadiren üzüntü veya umutsuzluk yaşarım.	1	2	3	4	5
9. Çok oyuncuyumdur.	1	2	3	4	5
10. Sık sık ağlayacak gibi olurum.	1	2	3	4	5
11. Arkadaşlarım beni muhtemelen fevri (çabuk sinirlenen) biri olarak tanımlarlar.	1	2	3	4	5
12. Çok sık yalnız hissetmem.	1	2	3	4	5
13. Diğer insanlarla şakalaşıp eğlenmeyi severim.	1	2	3	4	5
14. Sık sık yakınlarıma ilgi ve bakım verme dürtüsü hissedirim.	1	2	3	4	5
15. Çoğu zaman gelecek hakkında kaygılanırım.	1	2	3	4	5
16. Pek şefkatli değilim.	1	2	3	4	5
17. Beni kaygılandıran çok az şey vardır.	1	2	3	4	5
18. Çoğunlukla yalnız hissedirim.	1	2	3	4	5
19. Kolayca eğlenebilen ve bolca gülen biriyim.	1	2	3	4	5

20. Beni iyi tanıyanlar neredeyse hiç sinirlenmediğimi söylerler.	1	2	3	4	5
21. Genellikle sadece çözmüş olmak için problem veya bilinmeyenleri çözmekle ilgilenmem.	1	2	3	4	5
22. Şakalaşmaktan ve esprili konuşmaktan özellikle bir keyif duymam.	1	2	3	4	5
23. Bazen sorunlarım hakkında kaygılanmaktan kendimi alamam.	1	2	3	4	5
24. Nadiren birine bağırarak isteyecek kadar sinirlenirim.	1	2	3	4	5
25. Aşırı derecede ırdeleyici (araştırmacı) biri değilim.	1	2	3	4	5
26. Biri beni kızdırdığında genelde kızgınlığım uzun süre devam eder.	1	2	3	4	5
27. İnsanların bana duygusal olarak yakın olmasını özellikle istemem.	1	2	3	4	5
28. Merakım beni bir şeyler yapmaya iter.	1	2	3	4	5
29. Arkadaşlarım beni muhtemelen çok ciddi biri olarak tarif ederler.	1	2	3	4	5
30. Hayatta çok az korkum vardır.	1	2	3	4	5
31. Sorunlara yeni çözümler bulmaktan hoşlanırım.	1	2	3	4	5
32. Çoğu zaman üzgün hissederim.	1	2	3	4	5
33. Kalıpların dışında düşünmeyi severim.	1	2	3	4	5

Appendix E: Big Five Inventory (BFI)

Aşağıda sizi kısmen tanımlayan (ya da pek tanımlayamayan) birtakım özellikler sunulmaktadır. Örneğin, başkaları ile zaman geçirmekten hoşlanan birisi olduğunuzu düşünüyor musunuz? Lütfen aşağıda verilen özelliklerin sizi ne oranda yansıttığını ya da yansıtmadığını belirtmek için sizi en iyi tanımlayan rakamı her bir özelliğin yanına yazınız.

1. Hiç katılmıyorum
2. Biraz katılmıyorum
3. Ne katılıyorum ne de katılmıyorum (kararsızım)
4. Biraz katılıyorum
5. Tamamen katılıyorum

Kendimi biri olarak görüyorum

- | | |
|---|---|
| ___ 1. Konuşkan | ___ 23. Tembel olma eğiliminde olan |
| ___ 2. Başkalarında hata arayan | ___ 24. Duygusal olarak dengeli, kolayca keyfi kaçmayan |
| ___ 3. İşini tam yapan | ___ 25. Keşfeden, icat eden |
| ___ 4. Bunalımlı, melankolik | ___ 26. Atılgan bir kişiliğe sahip |
| ___ 5. Orijinal, yeni görüşler ortaya koyan | ___ 27. Soğuk ve mesafeli olabilen |
| ___ 6. Ketum/vakur | ___ 28. Görevi tamamlanıncaya kadar sebat edebilen |
| ___ 7. Yardımsever ve çıkarıcı olmayan | ___ 29. Dakikası dakikasına uymayan |
| ___ 8. Biraz umursamaz | ___ 30. Sanata ve estetik değerlere önem veren |
| ___ 9. Rahat, stresle kolay baş eden | ___ 31. Bazen utangaç, çekingen olan |
| ___ 10. Çok değişik konuları merak eden | ___ 32. Hemen hemen herkese karşı saygılı ve nazik olan |
| ___ 11. Enerji dolu | ___ 33. İşleri verimli yapan |
| ___ 12. Başkalarıyla sürekli didişen | ___ 34. Gergin ortamlarda sakin kalabilen |
| ___ 13. Güvenilir bir çalışan | ___ 35. Rutin işleri yapmayı tercih eden |
| ___ 14. Gergin olabilen | ___ 36. Sosyal, girişken |
| ___ 15. Maharetli, derin düşünen | ___ 37. Bazen başkalarına kaba davranabilen |
| ___ 16. Heyecan yaratabilen | ___ 38. Planlar yapan ve bunları takip eden |
| ___ 17. Affedici bir yapıya sahip | ___ 39. Kolayca sinirlenen |
| ___ 18. Dağınık olma eğiliminde | ___ 40. Düşünmeyi seven, fikirler geliştirebilen |
| ___ 19. Çok endişelenen | ___ 41. Sanata ilgisi çok az olan |
| ___ 20. Hayal gücü yüksek | ___ 42. Başkalarıyla işbirliği yapmayı seven |
| ___ 21. Sessiz bir yapıda | ___ 43. Kolaylıkla dikkati dağılan |
| ___ 22. Genellikle başkalarına güvenen | ___ 44. Sanat, müzik ve edebiyatta çok bilgili |

Appendix F: The Positive and Negative Affect Schedule (PANAS)

Bu ölçek farklı duyguları tanımlayan birtakım sözcükler içermektedir. Genelde nasıl hissettiğinizi düşünüp her maddeyi okuyun. Uygun cevabı her maddenin yanında ayrılan yere (puanları daire içine alarak) işaretleyin. Cevaplarınızı verirken aşağıdaki puanları kullanın.

1. Çok az veya hiç
2. Biraz
3. Ortalama
4. Oldukça
5. Çok fazla

1. İlgili	1	2	3	4	5
2. Sıkıntılı	1	2	3	4	5
3. Heyecanlı	1	2	3	4	5
4. Mutsuz	1	2	3	4	5
5. Güçlü	1	2	3	4	5
6. Suçlu	1	2	3	4	5
7. Ürkmüş	1	2	3	4	5
8. Düşmanca	1	2	3	4	5
9. Hevesli	1	2	3	4	5
10. Gururlu	1	2	3	4	5
11. Asabi	1	2	3	4	5
12. Uyanık	1	2	3	4	5
(dikkati açık)					
13. Utanmış	1	2	3	4	5
14. İlhamlı	1	2	3	4	5
(yaratıcı düşüncelerle dolu)					
15. Sinirli	1	2	3	4	5
16. Kararlı	1	2	3	4	5
17. Dikkatli	1	2	3	4	5
18. Tedirgin	1	2	3	4	5
19. Aktif	1	2	3	4	5
20. Korkmuş	1	2	3	4	5

Appendix G: Emotion Regulation Questionnaire (ERQ)

www.nebisumer.com

Emotion Regulation Questionnaire

Aşağıda insanların duygularını kontrol etmekte kullandıkları bazı yöntemler verilmiştir. Lütfen her durumu dikkatlice okuyunuz ve her birinin sizin için ne kadar doğru olduğunu içtenlikle yanıtlayınız. Yanıtınızı uygun cevap önündeki yuvarlak üzerine çarpı (X) koyarak işaretleyiniz.

1-----	2-----	3-----	4-----	5-----	6-----
Hiç	Çok az	Bazen	Kısmen	Oldukça	Tamamen
doğru değil	doğru	doğru	doğru	doğru	doğru

1. Duygularımı içinde bulunduğum durum hakkındaki düşüncelerimi değiştirerek kontrol ederim.
2. Hissettiğim olumsuz duyguları azaltmak istediğimde, içinde bulunduğum durum hakkındaki düşüncelerimi değiştiririm.
3. Hissettiğim olumlu duyguları arttırmak istediğimde, içinde bulunduğum durum hakkındaki düşüncelerimi değiştiririm.
4. Hissettiğim olumlu duyguları (sevinç veya eğlence/çoşku gibi) arttırmak istediğimde, düşündüğüm şeyleri değiştiririm.
5. Hissettiğim olumsuz duyguları (üzüntü veya kızgınlık gibi) azaltmak istediğimde, düşündüğüm şeyleri değiştiririm.
6. Stres yaratan bir durumla karşılaştığımda, sakin kalmama yardımcı olacak şekilde düşünmeye çalışırım.
7. Duygularımı onları belli etmeyerek kontrol ederim.
8. Olumsuz duygular hissettiğimde, onları belli etmemek için elimden geleni yaparım.
9. Duygularımı kendime (içimde) saklarım.
10. Olumlu duygular hissettiğimde, onları belli etmemeye özen gösteririm.

Appendix H: Debriefing Form

Araştırma Sonrası Bilgilendirme Formu

Katılımınız için çok teşekkür ederiz. Bu çalışmanın amacı bir kişilik ölçeğinin Türkçe adaptasyonunun yapılmasına yönelik veri toplanmasıydı. Araştırma hakkında sorularınız, önerileriniz veya belirtmek istediğiniz tüm durumlar için araştırmacıya nehirucarr@gmail.com adresinden ulaşabilirsiniz.



Appendix I: Social and Human Sciences Ethical Committee of Yeditepe University



T.C.
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Yazı İşleri Müdürlüğü

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Üniversitemiz Sosyal Bilimler Enstitüsü Klinik Psikoloji Yüksek Lisans Programı öğrencilerinden Nehir UÇAR'a ait "The Adaptation Study of the Brief Form of the Affective Neuroscience Personality Scales to Turkish" başlıklı araştırma önerisinin beşeri bilimler etik standartlarına uygunluğuna ilişkin Yeditepe Üniversitesi Beşeri ve Sosyal Araştırmalar Etik Kurul Onayı ekte sunulmuştur.

Gerekli iznin verilmesi hususunu bilgilerinize arz ve rica ederim.

Prof. Dr. Fatma Yeşim EKİNCİ
Rektör a.
Rektör Yardımcısı

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