

The Differential Effects of Attachment Orientations on the Perception of Facial Emotional Expressions

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Abstract

The present study investigated the differences of perception of facial expressions among different attachment orientations. The study was conducted with 356 university students (202 female and 154 male). The participants were given Experiences in Close Relationships-Revised (ECR-R) scale to assess their adult attachment style and Morph Movie Task to assess their sensitivity to emotion information. The research has demonstrated that attachment security of childhood influences on cognitive and emotion development, providing a framework for the later relationships. Given the importance of social functioning on wellbeing, it is crucial to understand the possible underlying mechanism of impairments. For that purpose, this study focused on the perception of facial expressions which serves as the general emotional cue in social interactions. In order to examine the perceptual differences, morph video tasks have been used. It has been hypothesized that attachment anxiety is related to increased sensitivity to the changes in emotional information, whereas avoidant individuals are expected to disregard the incoming information. The results for categorical analysis revealed that dismissing individuals detected both the offset and onset of the emotion later compared to secure and preoccupied participants and preoccupied individuals detected the offset earlier than fearful individuals. On the other hand, the hierarchical regression analysis of attachment dimensions showed that only attachment avoidance predicted the late detection of both onset and offset scores. The possible mechanisms underlying the differential effects are discussed.

Keywords: Facial expressions; Perception; Relationships; Childhood influences; Social interactions

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Citation: Sidal GD, Köksal F. (2018) The Differential Effects of Attachment Orientations on the Perception of Facial Emotional Expressions. J Child Dev Disord. Vol.4 No.2:3

Received: February 01, 2018; **Accepted:** March 06, 2018; **Published:** March 13, 2018

The Differences of Perception of Facial Expressions and Attachment

Emotional development occurs in the matrix of attachment relationships in the early years and can be defined as a transition “from dyadic regulation from self-regulation of emotion” [1]. The complete dependency of the new born evolves through repeated experiences of distress-relief cycles and shared positive affect between the caregiver and infant [2]. The responsiveness of the caregiver and the synchronicity of this relationship enables the infant develop skills for emotion regulation.

Bowlby stated that “the psychology and the psychopathology of emotion are found to be in large part the psychology and

psychopathology of affectional bonds” [3]. There is a tremendous amount of research regarding that attachment styles influence the processing of emotion related information and strategies for emotion regulation [4-7]. The working models that have been established through early experience provide schemas for perceptions and the interpretations about these perceptions and responses that might work as defense mechanisms. Consistently, regarding the emotion perception, the attention and encoding processes of the incoming emotional stimuli would be interpreted congruently with the attachment style people have. Moreover, their behavioural responses would also differ from each other [8].

The studies have demonstrated that newborns are born with an innate sensitivity to the facial expressions that provide the chances

of interaction with their surroundings [9,10]. Specifically, research on the discrimination between different facial expressions in infants revealed that they have preference to positive emotional expressions, even a few days after birth [11]. Furthermore, the person of familiarity as the infants' preference towards the facial expressions of their mothers has also been demonstrated in the studies [12]. The role of the caregiver has an increased impact on the abilities of emotion perception of infants because of the repeated and longer exposures throughout the interactions [13]. For instance, it was found that the infants of depressed mothers had more difficulties in discriminating between different facial expressions as these mothers exhibited more negative or neutral –still-face- expressions leaving the discriminating abilities of infants unsupported [14]. Thus, during the process of acquisition of emotion recognition, the interactions between significant relationships play a crucial role and have life-long consequences in emotional processing and social relationships.

Research conducted with children with abuse history revealed that they were able to recognize the expression of anger earlier but not the other emotional expressions compared to those who had experienced no abuse. Moreover, the physically abused children showed a delayed disengagement from the expression of anger. These attentional differences were also affected by the duration and severity of the abuse as well as the child's own anxiety [15]. The reported findings were interpreted as "perceptual expertise" which in that case was the abused children's' higher levels of exposure to the anger [16]. This heightened sensitivity of maltreated children may serve as adaptive in hostile environments since the early recognition of facial signals may protect from harm. On the other hand, it might be quite maladaptive in other social situations.

Research on neglected children demonstrated that they have difficulties on the discrimination of emotional expressions which might be a result of neurophysiological changes in the brain caused by primary attachment experiences [17,18].

The differential sensory thresholds of children in terms of emotional processing are most likely to guide social behaviors in the long-term. As stated as the first step of emotion regulation, a stimulus should be salient enough to be perceived for the observer. In the case of abused children, they would be more likely to perceive ambiguous stimuli as anger cues which would then affect their appraisal as well as their behavioral responses. For neglected children, they would be more likely to be indifferent to a variety of emotional stimuli which in turn impair their social functioning.

In social interactions, facial expressions provide most of the emotional information and reciprocally. Along with the perception of the others' emotional expression, people make inferences about the emotional state of the other and determine their own actions according to their goals. Moreover, people might be unaware of their perceptual biases as well as cognitive biases since these processes can be either conscious or unconscious [6].

Recognition of facial expressions is a core element in social interactions throughout our lives. The process involves the

detection and the interpretation of the muscle movements of the face and as well as the observer's own sensitivity, expectations and mental representations on the observed state [19]. Since the generation of emotions involves sequential movements of faces, people differ in terms of how rapid they recognize the emotion as well as the accurateness [16]. Thus, in order to evaluate the unfolding nature of emotions and perceptual differences on recognition of emotions, variety of studies are conducted with displaying images of morphing facial expressions [16,20,21].

In order to investigate the mechanism of the recognition and perception of facial expressions, Niedenthal and her colleagues [20] developed a morph video task which involves computerized movie of facial expressions gradually evolving into neutral expressions. In this task, the participants were supposed to stop the video when they believe the initial emotional expression disappeared. The first studies conducted with morph movie task have revealed that people tended to see the emotional cues which are congruent with their present emotional state for a longer period of time. In other words, their current emotional state had increased the degree of their sensitivity to the same expression [20-23].

The first study using morph video tasks in order to understand the differences of attachment styles in terms of processing facial expressions found that preoccupiedly attached individuals were more likely to perceive the offset of the emotional expressions later than those who are secure, whereas individuals with fearful attachment orientation perceived the offset later than secure individuals. These findings were interpreted as the different levels of sensitivity of the emotional expressions among attachment orientations. Specifically, preoccupied individuals tend to have a heightened sensitivity to the emotional cues, and that fearful individuals with a high level of avoidance tend to have less sensitivity to emotional cues [22]. However, it was suggested in subsequent studies that the delayed offset perceptions of fearful participants can also be interpreted as the sensitivity to change to emotional stimuli. Thus, a series of studies were conducted to replicate the findings and clarify the perceptual differences among different attachment orientations. The paradigm explained by Niedenthal et al. [21] were extended by exposing the participants to reverse versions of morph videos, from neutral expressions to emotional expressions in order to detect the sensitivity to change [23]. The results indicated that attachment anxiety was related with increased levels of vigilance regarding the emotional stimuli. Furthermore, they were more prone to make perceptual errors and less accurate in perceiving the emotions than secure individuals when they were asked to make decisions as quickly as possible. On the other hand, attachment avoidance did not reveal any significant differences regarding emotional vigilance. This finding was interpreted that the morph task may not be a suitable assessment for attachment avoidance and the avoidant action tendencies were more salient in those individuals [23].

Present Hypothesis

The present article aimed at replicating the previous findings and clarifying the differences between attachment orientations in

terms of processing the facial expressions. In order to investigate the sensitivity to the changes in facial expressions, the morph videos were shown as neutral to emotion and emotion to neutral. For this purpose, attachment styles were analyzed as both categorical (secure, fearful, dismissive, preoccupied) and dimensional factors (anxiety and avoidance). In general, it is hypothesized that different attachment styles would be different in terms of the cognitive processing of perception of facial expressions of emotions. Specifically, for attachment categories, it is expected that preoccupied individuals would detect the onset and offset of the facial expressions earlier than the other categories and reflect sensitivity to the emotional stimuli, whereas dismissive individuals would detect later. Furthermore, for dimensional analysis, it is expected that anxiously attached individuals would be more sensitive to the change as a result of hypervigilance in the facial expressions of emotions, thus would perceive the offset earlier than the securely attached individuals. On the other hand, individuals with avoidant attachment would disregard the emotional stimuli, thus they are expected to perceive the offset later than the securely attached individuals.

Method

Participants

This present study has been conducted with 356 students (202 female, 154 male) who are students from different departments of Doğuş University (Psychology, Electronics and Communication Engineering, Industrial Engineering, Computer Engineering, Administration, Mechanical Engineering, Economics and Finance, Architecture, Interior Architecture, Information System Engineering, Visual Communication Design). In this present study, the age of the students ranged from 18 to 45 with a mean of 21, 46 (SD=3,28). 72.8% of the students have been living with their family and 89.9% of them belong to higher-middle or middle socioeconomic status. 79% of the participants reported that they have experienced at least one romantic relationship. The students who volunteered for the study were given appointments in the lab of the Psychology department. They attended the study on an individual basis voluntarily and were required to fill in the questionnaires and watch the morph videos with the researcher respectively. The data acquired from each participant was given a participant number in order to match the questionnaires and the scores from the morph videos (**Table 1**).

Instruments

The instruments used for this present study include the Demographic Form which aims to obtain general information about the participant such as age, education, socioeconomic and marital status and family, Experiences in Close Relationships Revised (ECR-R).

Experiences in Close Relationships-Revised (ECR-R)

Experiences in Close Relationships-Revised (ECR-R) which has been developed by Fraley, Waller and Brennan (2000), is a measure of adult attachment style. The scale consists of 36 items

Table 1. Descriptive statistics of demographics of the participants.

Frequency			
Gender	Female	202	56,7
	Male	154	43,3
Socioeconomic status	High	15	4,2
	High middle	154	43,3
	Middle	166	46,6
	Low middle	18	5,1
	Low	3	0,8
Time spent most of the lifetime	Village	6	1,7
	District	39	11
	City	67	18,8
	Metropolis	244	68,5

which measures adult attachment on two dimensions: anxiety and avoidance. The first 18 items in the scale compromise the attachment-related anxiety scale whereas the remaining 18 items compromise the attachment-related avoidance scale. The items are rated according to a 7-point Likert type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

The scale was adapted to Turkish by Selçuk, Günaydın, Sümer and Uysal. The Cronbach alpha coefficients for avoidance and anxiety dimension are 0.90 and 0.86, respectively. Moreover, positive correlations were found between anxiety and avoidance dimensions and self-esteem and relationship satisfaction.

The Cronbach alpha values for the internal consistency of the questionnaire in this present study were found as 0.78 for anxiety and 0.79 for avoidance.

Morph movie task

The morph movie task which was firstly developed by Niedenthal et al., [21]; Niedenthal et al., [20] is a method for investigating the emotion perception of the individuals and especially its links to cognitions and emotions. In this movie task, participants watch series of a 100-frame computerized movies in which a human face displaying a specific emotional expression such as happiness, sadness or anger, gradually evolves into a neutral expression. The participants are instructed to stop the movie when they believe that the initial emotional expression is not displayed anymore. The offset time of the movie is expected to be different among participants and is used as the data.

The movies in the morph task, are generated from the MacBrain Face Stimulus Set, an archive of emotional expressions that have been pretested for the research purposes. Four different faces (two males, two female) with three different emotional expressions (happiness, sadness, anger) are used and showed to each participant with a randomized order for this study. The earlier studies investigating the association between perceptions of facial emotional expressions and categorical adult attachment styles by Niedenthal and her colleagues [22] revealed that preoccupied individuals were more sensitive to emotional cues, thus perceived the offset later than secure individuals, whereas fearful individuals perceived sooner due to their avoidance from emotional stimuli. However, Fraley et al. [23] suggested that the vigilance of the fearful individuals for the emotional stimuli might

have resulted in the early perception of offset. In order to clarify the explanation for this paradigm, the researchers reversed the direction of the morph movies in which the video started with the appearance of a neutral face gradually evolving to an emotionally charged face and asked the participants the onset of the emotion. The study revealed that highly anxious individuals tended to perceive both onset and offset of the emotions earlier than secure individuals. This finding supported the interpretation that anxious individuals are not only prone to emotions but also, they are more sensitive to any kind of emotional change in general. Based on these findings, in this present study, the participants were shown the morph videos in both ways, from emotion to neutral and from neutral to emotion in order to detect the sensitivity to emotional change. Moreover, the literature showed that the responses of the participants in this morph movie task was affected by how they feel during the task. Specifically, the participants were more sensitive to their present feeling in terms of emotional perception and they would judge the offset of the emotion that is congruent with their own emotional state at a later time than other participants [21]. In order to eliminate this effect, a brief mood checklist was provided to the participants prior to the video demonstration.

Procedure

The study was conducted at the lab of Psychology Department of Dogus University. Each participant was assigned an individual identification number in order to maintain anonymity. The participants were initially given a consent form which included a brief description of the study and the contact information as well as the statement that participation for this study is fully voluntary. Moreover, in the beginning of the assessment process, the participants were given a brief mood checklist in order to eliminate the possible confounding effect on the measured variables. Following the checklist, the participants were asked to view 12 morph videos of facial expressions and the responses are noted for each of the video. Finally, the participants filled in the questionnaires. The total assessment process took approximately 45 minutes and were carried out by the researcher or the research assistant of the Psychology department who were trained and supervised prior to the study. Both of the researchers used standardized statements during the administration of the morph video assessments.

Results

Categorical analyses

The literature suggests that attachment styles can interfere with the emotional information processing. Thus, a series of analyses were conducted to see the possible effects of attachment orientations on the perception of facial expressions. Firstly, attachment categories were obtained as secure, fearful, preoccupied and dismissive. Secondly, a series of one-way ANCOVAs have been conducted for each facial expression and composite scores that have been observed in the morph videos by controlling the effects of the present emotional states of the participants.

Separate one-way ANCOVAs yielded that there was a significant effect of attachment categories on the offset scores of facial expressions of anger, ($F [3,349] = 4.48, p \leq 0.005$), happiness, ($F [3,349] = 4.43, p \leq 0.005$) and sadness ($F [3,349] = 4.86, p \leq 0.005$) after controlling for the emotional states. Moreover, a significant effect was also found on the composite score that has been obtained by averaging the offset scores for all emotions, ($F [3,349] = 5.94, p \leq 0.001$).

The pairwise comparisons for the offset scores of angry facial expressions revealed that participants who have the dismissive attachment styles ($M=70.14$) perceived the offset of an angry expressions later than preoccupied ($M=61.8$) and secure participants ($M=65.01$). Moreover, preoccupied participants saw the offset of the angry expressions significantly sooner than the fearful participants ($M=66.96$). For the happy facial expressions, dismissive participants ($M=60.75$) were more likely to see the offset later than secure ($M=55.51$) and preoccupied ($M=51.75$) individuals. Furthermore, participants in the preoccupied group detected the offset of the happy expressions significantly sooner than the fearful group ($M=57.83$). Similarly, the contrasts for sad expressions yielded that participants in the dismissive group ($M=67.5$) perceived the offset significantly later than the preoccupied ($M=59.2$) and secure individuals ($M=60.94$). Moreover, participants with the fearful attachment style ($M=64.7$) were more likely to detect the offset later than the preoccupied participants. Concerning the composite offset scores, the same pattern was observed between groups. Whereas dismissive participants ($M=66.13$) perceived the offset later than secure ($M=60.49$) and preoccupied participants ($M=57.58$), fearful participants ($M=63.16$) saw the offset significantly later than the preoccupied individuals. The facial expression offset scores for each of the attachment category is demonstrated in **Figure 1**.

For the onset scores, separate one-way ANCOVAs were conducted with the covariates of emotional state. The results revealed no significant effects for the facial expressions of anger on attachment categories ($F [3,349] = 0.91, p=0.43$). For happy facial expressions, there was a significant main effect, ($F [3,349] = 3.06, p \leq 0.05$), as well as sad facial expressions, ($F [3,349] = 3.21, p \leq 0.05$). Finally, the composite onset scores were found to have

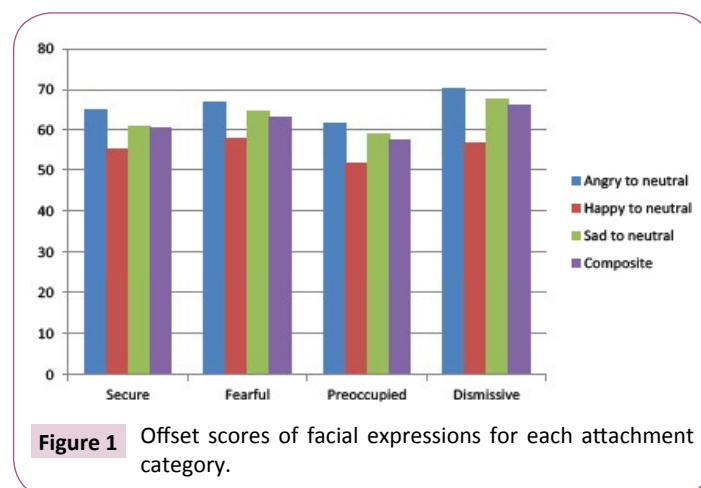


Figure 1 Offset scores of facial expressions for each attachment category.

a significant main effect on attachment categories, ($F [3,349] = 3.21, p \leq 0.05$).

The pairwise comparisons for the onset scores of happy facial expressions revealed that fearful participants ($M=35.74$) saw the onset of the expression later than the secure ($M=32.91$) and preoccupied individuals ($M=31.93$). Moreover, participants in the dismissive group ($M=35.92$) perceived the onset later than preoccupied group. Similarly, for the onset of the sad expressions, it was found that fearful participants ($M=53.7$) detected the onset of the expression later than the secure ($M=50.26$) and preoccupied individuals ($M=49.27$), whereas preoccupied participants detected the onset earlier than the dismissive types ($M=53.53$). Lastly, for the overall composite scores, a similar pattern was observed. The comparisons for all types of emotions revealed that fearful participants ($M=46.62$) saw the onset of the expressions later than secure ($M=44.06$) and preoccupied individuals ($M=42.99$). Furthermore, preoccupied participants perceived the onset earlier compared to individuals with the dismissive type ($M=46.3$) (Figure 2).

The results of ANCOVAs are summarized in Table 2. The means and standard deviations of offset and onset scores depending on the attachment categories are reported in Table 3.

Regression analyses for attachment dimensions

It was suggested by some theoreticians that attachment orientation should be conceptualized in two dimensions as anxiety and avoidance. In order to examine whether this dimensional conceptualization would lead to better predictions than attachment categorization, a two-step hierarchical regression was conducted for each of the offset and onset scores of the facial expressions, after controlling for the emotional state. For each dependent variable, in the first step the emotional states of the participants were entered, in order to control for the possible effects. In the second step, attachment dimensions of anxiety and avoidance were entered into the equation via stepwise method. The results are summarized in Table 4.

For the offset scores of angry expressions, the multiple regression analysis revealed after controlling for the emotional states, that only attachment avoidance was a significant predictor, ($\beta = 0.16, t [351] = 3.02, p < 0.005$), and explained a variance of 3%, ($F [1,351] = 9.14, p < 0.005$). Likewise, the regression analyses for the scores of happy expressions, ($\beta = 0.16, t [351] = 3.33, p < 0.005$), and for the scores of sad expressions, ($\beta = 0.16, t [351] = 2.89, p < 0.005$) yielded significant effects only for attachment avoidance. The model for the offset scores of happy expressions explained the variance of 4%, ($F [1,351] = 11.08, p < 0.005$), whereas for sad expressions the explained variance was found to be 3%, ($F [1,351] = 8.34, p < 0.005$). Finally, for the composite offset scores of all facial expressions, attachment avoidance significantly predicted the offset scores, ($\beta = 0.19, t [351] = 3.53, p < 0.001$) and explained an amount of variance of 4%, ($F [1,351] = 12.48, p < 0.001$). The results for the offset scores for all type of emotions that have been tested indicate that participants who have higher levels of attachment avoidance were more likely to detect the offset of the facial expressions later. However, the analysis yielded non-significant results for attachment anxiety.

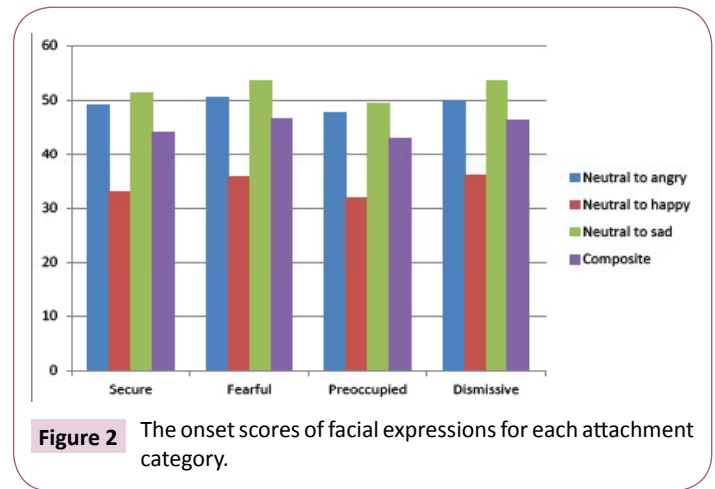


Figure 2 The onset scores of facial expressions for each attachment category.

Table 2. ANCOVA analysis for offset and onset scores of facial expressions.

Source	SS	df	MS	F	p
Offset scores					
Anger	2201.84	3	733.95	4.48	0.004
Happiness	2472.63	3	824.21	4.43	0.005
Sadness	2693.31	3	897.77	4.86	0.003
Composite	2408.52	3	802.84	5.94	0.001
Onset scores					
Anger	283.63	3	94.54	0.91	0.43
Happiness	922.89	3	307.63	3.06	0.03
Sadness	1051.86	3	350.62	3.21	0.02
Composite	677.98	3	225.99	3.01	0.03

Table 3. The means and standart deviations of the morph video scores depending on the attachment categories.

	Secure (N=85)		Fearful (N=153)		Preoccupied (N=49)		Dismissive (N=69)	
	M	SD	M	SD	M	SD	M	SD
Offset scores								
Happiness	55.51	12.6	57.83	13.63	51.75	14.21	60.75	14.4
Sadness	60.94	12.57	64.7	13.88	59.2	13.88	67.5	13.74
Anger	65.01	11.23	66.96	13.38	61.8	12.50	70.14	13.44
Composite	60.49	10.1	63.16	12.01	57.58	11.77	66.13	11.85
Onset scores								
Happiness	32.91	9.22	35.74	9.95	31.92	8.87	35.92	11.58
Sadness	51.26	10.13	53.7	10.69	49.27	9.22	53.53	11.05
Anger	49.03	10.46	50.43	9.83	47.77	8.23	49.45	11.57
Composite	44.06	8.2	46.62	8.46	42.99	7.62	46.3	10.08

For the onset of scores, separate regression analyses were conducted in order to examine the differences of each type of emotions and composite onset scores on the dimensions of attachment. The analyses revealed that only attachment avoidance was the significant predictor for the onset of angry expressions, ($\beta = 0.11, t [351] = 2.05, p < 0.05$) and happy expressions, ($\beta = 0.23, t [351] = 4.26, p < 0.001$) and also for sad expressions, ($\beta = 0.22, t [351] = 4.15, p < 0.001$). Attachment avoidance explained a variance of 2%, ($F [1,351] = 4.18, p < 0.05$), 5%, ($F [1,351] = 18.15, p < 0.001$) and 6%, ($F [1,351] = 17.22, p < 0.001$) of the equation, for these dependent variables, respectively. Finally, the regression analyses for the effects of attachment dimensions on the

Table 4. Summary of hierarchical regression analyses for attachment dimensions predicting each of the offset and onset scores of the facial expressions.

Variable	β	t	F change	df	R	R2	p
Offset scores							
DV: Anger							
Attachment avoidance	0.16	3.02**	9.14	1, 351	0.18	0.03	0.003
DV:Happiness							
Attachment avoidance	0.18	3.33**	11.08	1,351	0.2	0.04	0.001
DV: Sadness							
Attachment avoidance	0.16	2.89**	8.34	1, 351	0.16	0.03	0.004
DV:Composite scores	0.19	3.53**	12.48	1,351	0.2	0.04	0.000
Onset scores							
DV: Anger							
Attachment avoidance	0.11	2.05*	4.18	1,351	0.12	0.02	0.04
DV: Happiness							
Attachment avoidance	0.23	4.26**	18.15	1, 351	0.22	0.05	0.000
DV: Sadness							
Attachment avoidance	0.22	4.15**	17.22	1,351	0.24	0.06	0.000

composite onset scores yielded significant results for attachment avoidance, ($\beta = 0.22$, $t [351] = 4.12$, $p < 0.001$), and explained a variance of 5%, ($F [1,351] = 16.96$, $p < 0.001$), consistently with the other findings. These results indicate that, participants with higher levels of attachment avoidance tend to detect the onset of facial expressions later than those who have lower levels of attachment avoidance for all types of emotions. However, attachment anxiety did not yield any significant results for neither of the emotions.

To sum up, the overall results can be interpreted as the lessened sensitivity of avoidant individuals to emotional stimuli that have been examined through facial expressions in the morph videos.

Discussion

The purpose of the current study was to investigate the influence of attachment styles on the perception of facial expressions of emotions. The categorical analyses for four attachment orientations revealed that for the expressions of anger, happiness and sadness, the dismissing individuals detected the offset of the emotion later compared to secure and preoccupied participants. Moreover, for these three different conditions, preoccupied individuals detected the offset earlier than fearful individuals. For the onset scores of happiness and sadness, fearful individuals detected the onset of the emotion later than secure and preoccupied participants, whereas preoccupied individuals earlier than dismissing types. However, there was no significant difference for anger between attachment orientations. This finding on anger can be interpreted according to the evolutionary paradigm. The detection of the expression of anger has an evolutionary advantage as it increases the chances of survival in

a threatening environment. On the other hand, anger requires an approach behavior which might be dangerous to both sides. Thus, even though the rapid detection of anger is important, the accuracy of the emotion of anger is of great concern. The need for assurance might have resulted in a delayed detection for all attachment orientations.

The dimensional analysis for attachment insecurity revealed that as participants have higher avoidance, they tend to detect the offset and the onset of the facial expressions later. Thus, they are more insensitive to the changes of emotional expressions.

These findings were mostly consistent with the expectations of the current study as well as the relevant literature [20-22]. Avoidant individuals have a negative view of others and avoid intimacy denying the need for them. In terms of emotion regulation, in early childhood they learn to use deactivating strategies since deactivating the feelings attached to the primary caregiver would enhance the chance for the proximity to the caregiver. Deactivating, as a defensive strategy, impacts the attentional processes and minimizes or ignores the value of emotional stimuli. People with avoidant attachment orientations aim to downregulate their emotions by suppressing or inhibiting in order to keep the attachment system deactivated. Instead, these people rely on themselves and attain a defensive independence without the risk of feeling vulnerable and avoid their emotions [24]. Their biased thinking style and reliance on their personal strength as well as their false self, can keep them from using adaptive coping efforts and impair their information processing, especially interfering with the acknowledgement of the new information. Furthermore, they would also avoid their own emotions and any kind of internal stimuli (thoughts, memories, feelings etc.) and external stimuli to maintain the attachment system deactivated along with the suppression of the both detection and expression of emotions [25,26]. Anxiously attached individuals, on the other hand overestimate the likelihood of threat and become more vigilant and use hyperactivating strategies to sustain and exaggerate emotions in order to gain the attention and protection of the attachment figure [25,26]. In adult relationships, this system may be manifested in behaviors such as clinging, being overly dependent and needy. On the contrary, they tend to exaggerate threatening appraisals of the environmental changes and make global personal and uncontrollable attributions to the threat related stimuli [7]. Furthermore, anxiously attached people had a heightened sensitivity to their negatively charged internal, cognitive, emotional and physiological states [26,27]. The nonsignificant results of dimensional analyses for attachment anxiety might be discussed as a result of the absence of a real threatening situation as the activation of the attachment system especially occurs in times of distress.

Clinical Implications

This present study highlights the importance of relational experience in early childhood as a risk factor for later social functioning and emotional processing. The primary attachment relationships influence the cognitive and emotional development of the child. In terms of emotional development, the attentional

processes and the related appraisals to the perceived situation constitute as the first step of emotion regulation which is critical for adult wellbeing. Furthermore, the perception and interpretation of the received information inevitably affects our responses and might result in a vicious cycle impairing the relationships. Facial expressions are the most salient cues in terms of predicting the affective states of others and determine our responses related to that particular emotion. Accepting the fact that perceptual biases are part of our nature as well

as our histories, awareness of our cognitions and emotions might provide us with a better social functioning. Furthermore, it is important to note that attachment insecurity also have a tremendous effect on parenting practices. Parents with their own history of relational trauma might contribute to the generational transmission of attachment insecurity. Thus, it is crucial to be aware of the possible relational trauma in early childhood and its possible lifelong effects. Attachment security is not only a childhood concern, but a protective factor throughout our lives.

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