

## Article

# Relationships among Work-Related Affective Feelings in Employees, Determined through Partial Least Squares Structural Equation Modeling (PLS-SEM)

Awad Aljuaid <sup>1</sup>, Ashraf Alhujaili <sup>2</sup>, Erman Çakıt <sup>3,\*</sup>, Waldemar Karwowski <sup>4</sup>,  
Magdalena Anna Jaworek <sup>5</sup>, Tadeusz Marek <sup>6</sup> and Atsuo Murata <sup>7</sup>

<sup>1</sup> Department of Industrial Engineering, College of Engineering, Taif University, Taif 21944, Saudi Arabia

<sup>2</sup> Department of Management Sciences and Industrial Technology, Yanbu Industrial College, Yanbu 46455, Saudi Arabia

<sup>3</sup> Department of Industrial Engineering, Gazi University, Ankara 06570, Turkey

<sup>4</sup> Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL 32816, USA

<sup>5</sup> Department of Organizational Behavior, Faculty of Management and Social Communication, Jagiellonian University, 31-007 Kraków, Poland

<sup>6</sup> Department of Cognitive Neuroscience and Neuroergonomics, Institute of Applied Psychology, Jagiellonian University, 30-348 Kraków, Poland

<sup>7</sup> Department of Intelligent Mechanical Systems, Graduate School of Natural Science and Technology, Okayama University, Okayama 700-8530, Japan

\* Correspondence: ecakit@gazi.edu.tr



**Citation:** Aljuaid, A.; Alhujaili, A.; Çakıt, E.; Karwowski, W.; Jaworek, M.A.; Marek, T.; Murata, A. Relationships among Work-Related Affective Feelings in Employees, Determined through Partial Least Squares Structural Equation Modeling (PLS-SEM). *Appl. Sci.* **2022**, *12*, 7923. <https://doi.org/10.3390/app12157923>

Academic Editor: Pentti Nieminen

Received: 13 June 2022

Accepted: 6 August 2022

Published: 8 August 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

**Abstract:** Feelings significantly affect organizations in a variety of circumstances and areas. Many major events that affect people and organizations cannot be discussed without an understanding of the essential roles of feelings. In addition, work-related feelings can substantially affect employees' health, well-being, productivity, and performance. The purposes of this research were (1) to validate the work-related affective feelings (WORAF) questionnaire in Arabic respondents, (2) to examine the relationships among four WORAF: happiness, anxiety, anger, and dejection, and (3) to compare the model results with those in Turkish respondents participating in a previous study. A survey with the following four components was conducted: (1) work-related feelings of happiness, (2) work-related feelings of anxiety, (3) work-related feelings of anger, and (4) work-related feelings of dejection. A paper-based survey was completed by 332 workers from various companies in Saudi Arabia. The key components of the research model were developed with partial least squares structural equation modeling (PLS-SEM). According to the findings, workplace dejection and anger considerably affected workplace anxiety. Similarly, work-related dejection, anger, and anxiety significantly affected perceived happiness. A comparison indicated similar results between Arabic and Turkish respondents.

**Keywords:** work-related affective feelings; PLS-SEM; Saudi Arabia; Turkey; modeling

## 1. Introduction

Feelings and views distinguish each of us as individuals. Feelings are essential indicators of our desires, preferences, dislikes, and survival requirements. Feelings, when reacted to with thought and proper action, have a major role in bringing our individuality into the workplace and all other critical interactions in our lives [1]. Various affective states and responses are related to work. These responses include feelings such as excitement, joy, pleasure, happiness, frustration, displeasure, and anger. Some of these feelings might be classified as positive, whereas others might be considered negative [2]. Crucially, emotions are a natural part of everyday life and work. Many events with substantial consequences for people and businesses cannot be discussed without addressing the importance of feelings.

Examining feelings has been increasingly important in understanding employees' job experiences and forecasting their attitudes and behaviors in recent decades [3]. Knowledge of emotions in companies, however, remains limited, and crucial concerns remain unresolved. This theoretical deficiency is also evident in practice. For instance, much discussion has occurred regarding how emotions affect negotiations among academics and professional negotiators [4]. Many negotiation training programs place a strong focus on emotional management. Some have suggested that only good emotions are helpful, whereas others feel that negative emotions are more conducive to finding a favorable bargain (reviewed in [5]). According to Fineman [6], positive feelings, such as love, hope, and joy, should be connected to negative feelings, such as fear, anxiety, and sadness, because they are at opposite ends of the same emotional spectrum. As a result, research should not emphasize only positive feelings, because doing so provides a limited perspective on reality. Additionally, according to Fisher [7], feelings (such as joy or love) precede beliefs (engagement, commitment, satisfaction, and happiness). Consequently, this study examined the complex and little-known domain of feelings in the workplace.

Individuals, supervisors, and organizations are concerned about emotions in the workplace for a variety of reasons. People all care about how they feel on a personal level. In general, people like to feel pleasant feelings, such as joy and excitement, while avoiding negative emotions, such as shame or rage. Negative emotions can be beneficial in some situations, whereas happy emotions might lead to undesired consequences. Employee moods and emotions have sparked the interest of companies only when they are believed to be linked to performance in some way. One difficulty in analyzing emotions in the workplace is the wide range of theoretical and conceptual techniques used, which operate at various levels of theoretical premises and analysis and have a variety of consequences. In general, two primary theoretical methods for handling emotions inside companies have been used: psychological and sociological. Emotions are primarily considered to be part of the individual experience and to essentially be intrapsychic phenomena in psychological theories [8]. Emotional expressions are based on learned rules that are socially and culturally constructed according to socially and culturally oriented perspectives on emotion. As a result, emotions are no longer viewed as only mental events but as entities that structure social interactions and their outcomes [9,10].

Although some firms are naturally interested in their employees' well-being, others are more prone to considering emotions to be important only if they aid in or impede employee performance [11]. Few studies have been conducted on general, everyday feelings in the workplace, and estimates of the frequencies of several unique felt emotions vary depending on the approach utilized. Jaworek et al. [12] recently designed and validated a novel instrument for measuring four work-related affective feelings (WORAF). Çakit et al. [13] validated the WORAF questionnaire in a Turkish sample and found that the anxiety experienced in occupational contexts is significantly influenced by dejection and anger in the workplace [13]. The primary goals of the current research were (1) to validate the WORAF questionnaire in an Arabic population, (2) to examine the relationships among four WORAF—happiness, anxiety, anger, and dejection—and (3) to compare the Arabic sample to the Turkish sample [13]. Furthermore, this research also considered the psychological and social factors that influence employees' behaviors, attitudes, and expectations.

The remainder of this article is organized as follows. The second section presents an overview of the literature. Section 3 presents the study's design and hypothesis. Section 4 describes the partial least squares structural equation modeling (PLS-SEM) technique used to construct a research model and identify its key elements. Finally, Sections 5 and 6 detail the hypothesis testing findings, discussion, and conclusions.

## 2. Background

Emotional research in the workplace has only recently become a recognized field of study. Although one of the earliest studies directly asking individuals in the workplace about their emotions was conducted in the 1930s [14], until the mid-to-late 1980s, essentially

no additional research had been performed on this topic. The publication of a book by sociologist Arlie Hochschild is the likely reason for the recent spike in interest in studying emotion in the workplace [15]. Employees in some occupations are expected to express emotion as part of their professional function in order to complete tasks. Several attempts have been made to classify the causes of emotions in the workplace, particularly in [16]. Employees were asked how their bosses reacted to their unpleasant feelings in the workplace in a study by Kiefer et al. [17]. A variety of supervisor responses was evaluated, ranging from doing nothing to attempting to solve the situation. Employees who believed that their superiors ignored or retreated from their negative emotions reported more job strain, less trust in the firm, and greater withdrawal from the organization, according to the preliminary findings. Of course, identifying or categorizing all probable causes and effects of workplace emotions is difficult. Nonetheless, such a wide classification can aid in developing a better understanding of the many emotional processes in the workplace and can more clearly define the consequences for individuals and organizations.

Employees are frequently asked to control the content, frequency, severity, and intensity of their emotional behavior in the workplace [18]. As a result, sentiments in the workplace refer to situations in which individuals are forced to express feelings that are not necessarily their own [7]. Although feelings have traditionally been considered to be socially formed and regulated, scientific research and philosophical debate have conceptualized feelings in several other ways. Several definitions have been presented to describe the idea of workplace happiness. Workplace happiness, according to one definition, reflects pleasurable encounters and good attitudes [7]. Happiness is frequently characterized as the experience of pleasant feelings such as joy, contentment, amusement, and thankfulness on a regular basis [19].

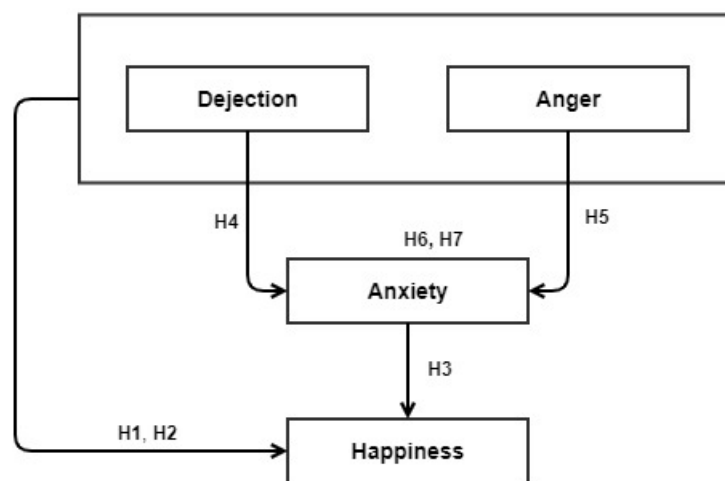
Most publications identify feelings as clearly experienced emotions (often negative feelings, such as fear and insecurity) related to well-being on the job [20]. Two more articles have emphasized negative sentiments, such as worry at the start of a new job [21] or emotional distress in the face of tightening governmental rules in public sector work [22]. When describing feelings as emotional states, Rausch et al. [23,24] used the popular circumplex model of feeling [25] and the concepts of valence and arousal to denote the strength of the felt emotion. Feelings have been used to describe emotional experiences in two recent studies [26,27], although the term's exact meaning is somewhat ambiguous. All articles in the area of emotional experiences explain feelings differently, yet they all share the concept of essentially individually experienced feelings or emotional states that may result in emotionally ingrained behaviors. Another commonality is that, when specifically explaining the idea of feeling, all but two [20,23] articles have focused on negative feelings, such as fear, worry, or insecurity. However, the articles in this category are not entirely internally consistent in their descriptions of the idea of feeling.

Although depressive symptoms harm well-being, the ability to cope with negative emotions may boost mental health and have a positive influence on morale. Sargeant et al. [28], in a study on the effects of negative sentiments, noted that receiving negative feedback in the workplace frequently elicits unpleasant emotions. The close relationships among anger, anxiety, and dejection have been confirmed by many researchers. Anger and anxiety, according to some psychologists, are "strictly interconnected" [29]. Others have indicated that anger and dejection can occur at the same time [30,31]. The following seven hypotheses were established on the basis of the above discussion to study the relationships among happiness, dejection, anger, and anxiety (Figure 1):

- H1.** *Dejection affects happiness in a negative way.*
- H2.** *Anger affects happiness in a negative way.*
- H3.** *Anxiety affects happiness in a negative way.*
- H4.** *Dejection affects anxiety in a positive way.*
- H5.** *Anger affects anxiety in a positive way.*

**H6.** The association between dejection and happiness is influenced by anxiety.

**H7.** The association between anger and happiness is influenced by anxiety.



**Figure 1.** The hypothesized conceptual model.

### 3. Methods and Procedure

#### 3.1. Study Design

Employees in various occupations in Saudi Arabia took part in a survey on workplace emotions in this cross-sectional study. An invitation to participate in the survey was sent with a cover letter, and participants were asked to fill out an informed consent form. The Scientific Research Ethics Committee at Taif University approved this research with approval No. 42–62, dated 22 February 2021. The original questionnaire was verified in a broad population of Polish and Turkish employees in various occupations and published in previous research [12,13]. This questionnaire was translated into Arabic and pilot tested in a small group of Arabic employees. This method ensured that all questions in the translated version of the survey were properly answered by the participants.

#### 3.2. Study Variables

The questionnaire contained two parts. The respondents were asked to submit demographic information in the first section of the survey. The second section comprised questions with responses ranging from 1 ((almost) never) to 4 ((almost) always) on a 4-point Likert scale. To reconcile missing responses and unanswered questions, data for respondents who did not fill out all of the survey items were excluded from the final data set. Table 1 describes the first set of variables used for model construction on the basis of the information presented above in the questionnaire.

**Table 1.** Item measurements and their accompanying model constructions [13].

Description of Item Measurements.	
<b>Anxiety (ANX)</b>	
ANX1	“I feel fear at work.”
ANX2	“I feel that matters related to work are getting out of control, which makes me panic.”
ANX3	“What is happening at work fills me with anxiety and makes me feel threatened.”
ANX4	“I’m thinking that on Monday I need to go to work; I feel anxious.”
ANX5	“I have symptoms of anxiety and nervousness at work, and I’m not able to calm down.”
ANX6	“Actions taken by my co-workers and/or supervisors make me feel uncertain.”
ANX7	“I am concerned that I won’t be able to meet the work requirements.”
ANX8	“I feel uncertain at work.”

Table 1. Cont.

Description of Item Measurements.	
<b>Happiness (HAP)</b>	
HAP1	"I find my work enjoyable."
HAP2	"My job brings me satisfaction."
HAP3	"My job gives me a sense of fulfilment."
HAP4	"I find contentment in my work."
HAP5	"Overall, I feel relaxed and free."
HAP6	"I am happy with my relations with my superiors."
HAP7	"I have a positive attitude toward the tasks and problems that I am facing at work."
<b>Dejection (DEJ)</b>	
DEJ1	"At work, I feel like I have reached the bottom."
DEJ2	"When it comes to my job, it could not be worse."
DEJ3	"Most work related activities make me feel sad and useless."
DEJ4	"I don't see any career path in front of me."
DEJ5	"I have a sense of being suspended from what is happening at work."
<b>Anger (ANG)</b>	
ANG1	"Recently, everything related to my work makes me angry."
ANG2	"I find everything at work annoying."
ANG3	"The tasks I am getting from my supervisor make me furious."
ANG4	"There are moments when I feel very irritated."

### 3.3. Participants

The questionnaire was sent through the Saudi employees gate, and the selection was random through 12 national regions and more than 18 occupations. The amount of all workers in economics is 3 million. A total of 435 workers were invited to participate in the study. Of these, 332 respondents (260 (78.3%) men and 72 (21.7%) women) provided valid surveys. The participants worked in various sectors and organizations in Saudi Arabia. The primary work sectors were as follows: 58 respondents were in the teaching and education sector (17.5%), 54 respondents worked in government positions (16.3%), 47 (14.2) were in the management sector, 39 (11.7) were in the health, medical, and medicine sector, 23 (6.9) were in the oil and gas sector, 17 (5.1) were in the computer-related sector, 16 (4.8) were in the petrochemicals sector, and 134 (40.3%) people reported associations with other sectors. The participants were between the ages of 19 and 66 years. There were 23 (6.9%) respondents under the age of 25, 51 (15.4%) between the ages of 25 and 30, 119 (35.8%) between the ages of 31 and 40, and 139 (41.9%) above the age of 40. In terms of work experience, 60 (18.1%) of the participants had worked fewer than 5 years, 41 (12.3%) had worked for 5–10 years, 152 (45.8%) had worked for 11–20 years, and 79 (23.8%) had worked for more than 20 years (Table 2). In terms of education level, 41 (12.3%) of the participants completed high school, 173 (52.1%) were college graduates, 43 (13%) earned a master's degree, 39 (11.7%) earned an associate degree, and 36 (10.8%) earned a Ph.D.

### 3.4. Statistical Analysis

IBM SPSS Statistics (v.28) was used for demographic data analysis, and SmartPLS (v.3.3.3) was used for additional statistical analyses [32,33]. To assess the relationships among the model items, we used multicollinearity analysis, confirmatory factor analysis (CFA), reliability and convergent validity, discriminant validity, path coefficients, hypothesis testing, and PLS-SEM. Validity and reliability checks were performed prior to the completion of the PLS-SEM analysis to confirm the data quality and consistency of the structural model.

**Table 2.** Demographic information.

Demographic Variable	All (N = 332)	
	Frequency	(%)
Gender		
1. Male	260	78.3
2. Female	72	21.7
Age		
1. Less than 25	23	6.9
2. 25–30	51	15.4
3. 31–40	119	35.8
4. Older than 40	139	41.9
Work experience		
1. Less than 5 years	60	18.1
2. 5–10 years	41	12.3
3. 11–20 years	152	45.8
4. More than 20 years	79	23.8

## 4. Results

### 4.1. Multicollinearity Test

At the initial stage in model testing, we assessed the descriptive statistics for all study variables. To assess the association between any two parameters in the model's formulation, we conducted correlation analysis (Table 3). At the  $p < 0.01$  level, all model variables showed statistically significant relationships. Anxiety and dejection, as well as anxiety and anger, were found to have positive relationships. Furthermore, happiness and anxiety, as well as happiness and dejection, had negative relationships.

**Table 3.** Descriptive statistics and correlation values.

	Mean	S.D.	ANX	HAP	DEJ	ANG
ANX	1.81	0.64	-	-	-	-
HAP	2.90	0.77	-0.63	-	-	-
DEJ	1.66	0.65	0.79	-0.59	-	-
ANG	1.85	0.67	0.77	-0.64	0.79	-

Notes: Correlations are significant at the  $p \leq 0.01$  level. Abbreviations: anxiety (ANX), happiness (HAP), dejection (DEJ), and anger (ANG).

Multicollinearity refers to the occurrence of high correlations among two or more variables [34] and can be detected by using variance inflation factors (VIFs). SmartPLS (v.3.3.3) analysis was used to compute the VIF values. All VIFs were found to be  $< 5.0$  and thus were acceptable according to Hair et al. [33]. An issue in multicollinearity may emerge if the VIF coefficient is larger than 5.0. No VIF coefficient values exceeded 5.0 in the model findings, thus indicating an absence of collinearity issues in the model results (Table 4).

**Table 4.** VIF values.

	VIF		VIF		VIF
ANG1	1.548	HAP1	2.591	ANX1	2.030
ANG2	1.965	HAP2	2.521	ANX2	1.829
ANG3	1.390	HAP3	2.201	ANX3	2.487
ANG4	1.687	HAP4	2.285	ANX4	1.571
DEJ1	1.578	HAP5	1.593	ANX5	1.614
DEJ2	1.524	HAP6	1.646	ANX6	1.694
DEJ3	1.489	HAP7	1.392	ANX7	1.229
DEJ4	1.275			ANX8	2.263
DEJ5	1.482				



### 4.2. Confirmatory Factor Analysis

CFA was performed to validate the measurement model and investigate the relationships between the constructs and their associated measurement elements. Some items in the early model had low indication loadings (Figure 2). A preliminary CFA was performed, and the results were used to exclude many items from the construct to increase their reliability and validity. Specifically, one item, ANX7, was deleted from ANX, and one item, HAP7, was deleted from HAP. The CFA was then repeated with the other measurement items (Figure 3).

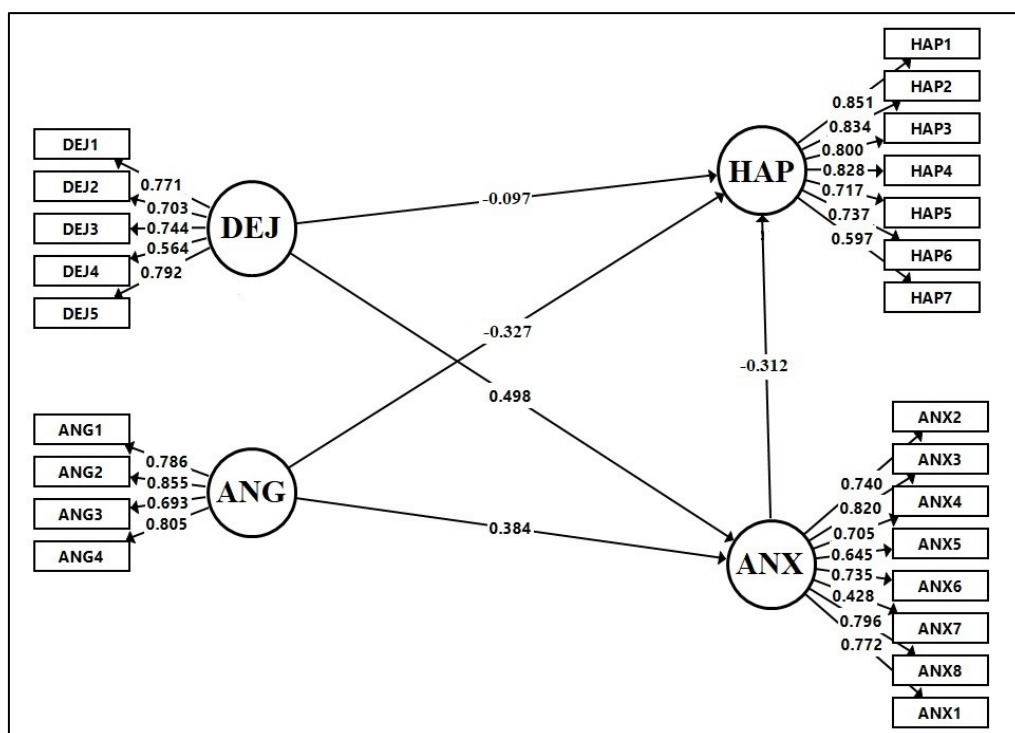


Figure 2. A preliminary structural model considering external loads.

### 4.3. Reliability and Convergent Validity

SmartPLS (version 3.3.3) analysis was used to assess the model’s validity, reliability, and path coefficients. Fornell and Larcker [35] and Cronbach [36] suggested composite reliability and Cronbach’s alpha for reliability analysis. For model validity testing, convergent and discriminant validity were applied. The average variance extracted (AVE), created by Fornell and Larcker [35], may be used to assess convergent validity by determining how correctly the latent model reflects the scale items [37]. Cronbach’s alpha > 0.7, rho\_A > 0.7, composite reliability > 0.8, and AVE > 0.5 were found to fulfill all essential reliability and validity standards in the final structural model. The detailed findings are shown in Table 5.

Table 5. Reliability and convergent validity results.

Construct	Number of Items		Cronbach’s Alpha		AVE		Composite Reliability	
	Initial Model	Final Model	Initial Model	Final Model	Initial Model	Final Model	Initial Model	Final Model
ANX	8	7	0.859	0.868	0.511	0.561	0.891	0.899
HAP	7	6	0.884	0.856	0.594	0.639	0.910	0.913
DEJ	5	5	0.769	0.769	0.518	0.518	0.841	0.841
ANG	4	4	0.794	0.794	0.620	0.620	0.866	0.866

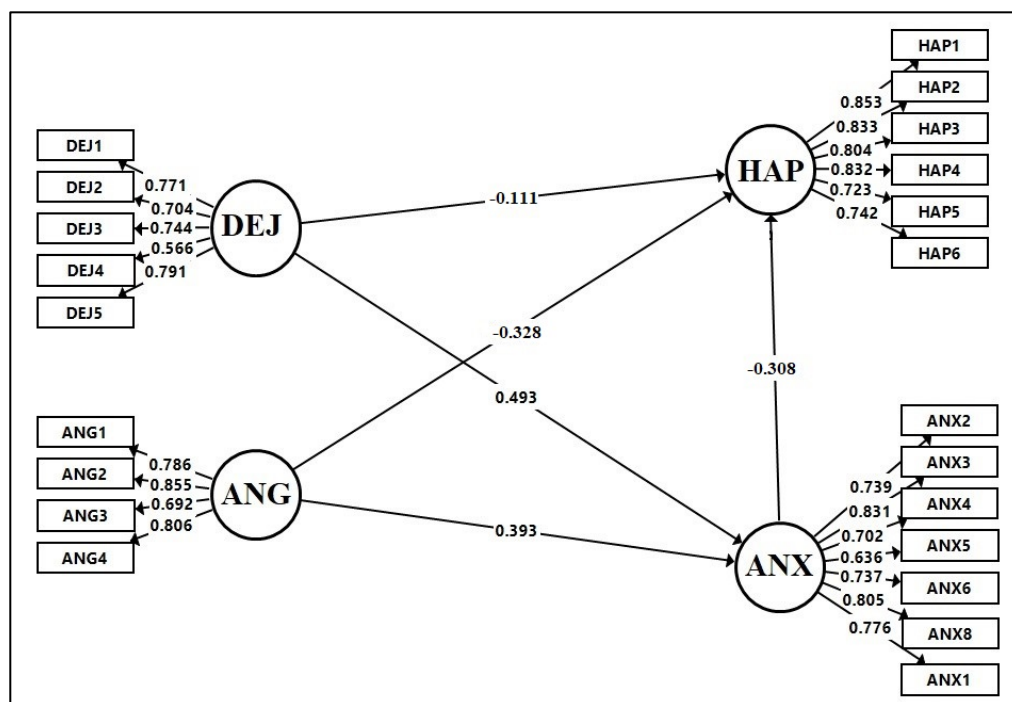


Figure 3. A completed structural model with exterior loading.

#### 4.4. Discriminant Validity

Discriminant validity means that “each construct represents its own dimension, and the model constructs are clearly distinct, with each construct sharing more variance with its associated items than with any other construct” [38]. Fornell and Larcker [35] suggested a requirement for discriminating validity in which the square root of the AVE of each construct should be greater than its absolute similarity to any other construct. The calculation model satisfies this requirement because the diagonal entries in Table 5 are indeed greater than the non-diagonal entries in Table 6. The model also meets the heterotrait–monotrait (HTMT) discriminant validity requirements [39]. Table 7 confirms that the HTMT correlation ratio to be less than 0.90.

Table 6. Discriminant validity results (Fornell–Larcker criterion).

Latent Constructs	ANG	ANX	DEJ	HAP
ANG	0.787	-	-	-
ANX	0.787	0.749	-	-
DEJ	0.799	0.807	0.720	-
HAP	−0.660	−0.656	−0.622	0.799

Table 7. Discriminant validity (HTMT criterion).

Construct	ANG	ANX	DEJ	HAP
ANG	-	-	-	-
ANX	0.895	-	-	-
DEJ	0.894	0.892	-	-
HAP	0.780	0.737	0.721	-

## 5. Results and Discussion

### 5.1. Hypothesis Testing Results and Discussion

Path analysis was used with each latent indicator to examine the relationships between each latent variable and the study’s stated hypotheses. PLS-SEM was used to determine



the relevance of the path coefficients. Table 8 displays the computed latent variable path coefficients and t-values. Except for hypothesis H1, all other hypotheses were confirmed. The main findings are listed below and summarized in Figure 4:

- Workplace dejection had no statistically significant relationship with workplace happiness ( $\beta = -0.107$ ;  $p$ -value  $> 0.05$ ); therefore, H1 was rejected.
- Workplace anger had a negative effect on work happiness ( $\beta = -0.327$ ;  $p$ -value  $< 0.05$ ). Therefore, H2 was supported.
- Workplace anxiety was found to have a substantial negative relationship with workplace happiness ( $\beta = -0.314$ ;  $p$ -value  $< 0.05$ ). Therefore, H3 was supported.
- Workplace dejection exhibited a substantial positive relationship with workplace anxiety ( $\beta = 0.494$ ;  $p$ -value  $< 0.05$ ). Therefore, H4 was supported.
- Workplace anger had a positive effect on workplace anxiety ( $\beta = 0.393$ ;  $p$ -value  $< 0.05$ ). Therefore, H5 was supported.
- Workplace anxiety affected the association between dejection and happiness ( $\beta = -0.155$ ;  $p$ -value  $< 0.05$ ). Therefore, H6 was supported.
- Workplace anxiety was found to be a mediator in the association between anger and happiness ( $\beta = -0.123$ ;  $p$ -value  $< 0.05$ ). Therefore, H7 was supported.

Table 8. Hypotheses testing results.

Path	Path Coefficient	t-Statistics	p-Value	Remarks
DEJ → HAP	-0.107	1.494	0.136	H1: unsupported
ANG → HAP	-0.327	4.366	0.000	H2: supported
ANX → HAP	-0.314	4.143	0.000	H3: supported
DEJ → ANX	0.494	8.279	0.000	H4: supported
ANG → ANX	0.393	5.738	0.000	H5: supported
DEJ → ANX → HAP	-0.155	3.853	0.000	H6: supported
ANG → ANX → HAP	-0.123	3.085	0.002	H7: supported

Note:  $p$ -values were considered significant at the 0.05 level.

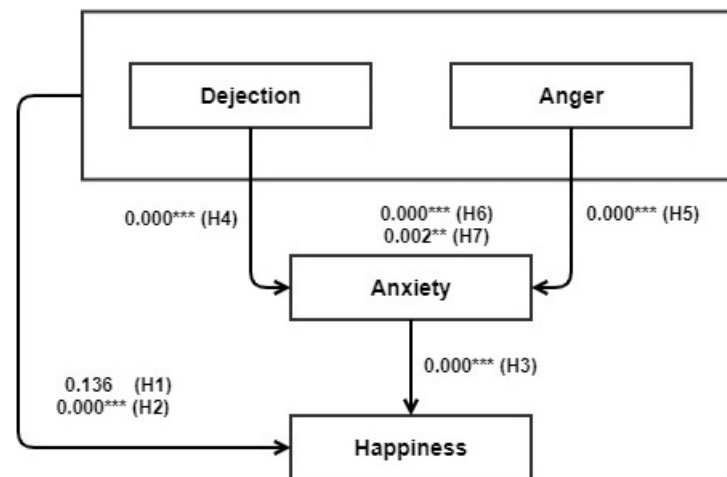


Figure 4. Final WORAF model ( $p$ -values). \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

The model's  $R^2$  was calculated to determine the extent to which the independent factors changed the dependent constructs. We also hypothesized that the experiment's collection of variables considerably affected employee sentiments. On the basis of the study data and bootstrapping results, we established that workplace dejection and anger significantly affected workplace anxiety. Changes in workplace dejection and anger were demonstrated to have an effect on anxiety, with  $R^2 = 0.708$ ; that is, dejection and anger in the workplace contributed 70.8% to anxiety. According to the  $R^2$  value of 0.489, workplace dejection, anger, and anxiety all significantly influenced workplace happiness (Figure 5).

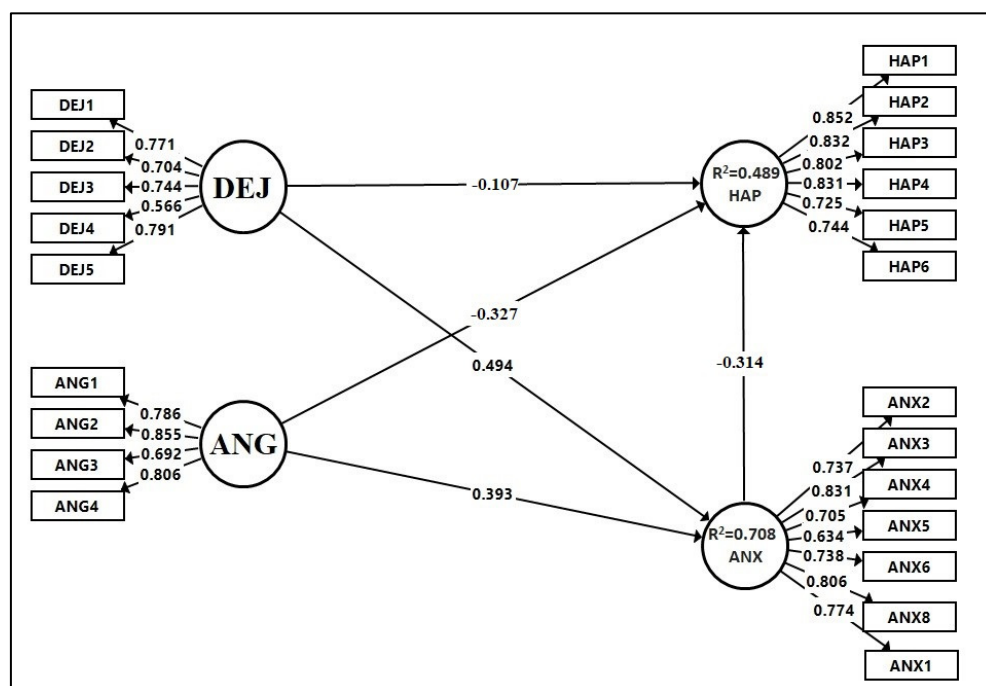


Figure 5. Measurement and structural model results (SmartPLS output).

Figure 5 shows the patterns indicated by the research findings. The following is a summary of the final model:

- Workplace happiness decreases as workplace anger increases.
- Workplace happiness decreases as workplace anxiety increases.
- As the level of dejection in the workplace increases, so does the level of workplace anxiety.
- As the level of anxiety in the workplace increases, so does the level of workplace anger.
- Workplace anxiety has a role in the relationship between dejection and happiness.
- Workplace anxiety has a role in the association between anger and happiness.

The findings of this study are supported by prior experiments using a dimensional approach, which have shown that three different types of work-related sentiments are intertwined [25,40,41]. The results of this study support the use of WORAF as a measurement instrument in further studies. Other work-related emotions including guilt, humiliation, jealousy, optimism, and sympathy should also be included in future studies, as suggested by other researchers [29]. The participants in this study were all Saudis, and hence the findings cannot be generalized to workers with different ethnic or cultural backgrounds because the constructs studied are affected by culture and society. For this reason, further experiments using the WORAF scale and workers with different cultural and social backgrounds should be performed.

Regulating the emotions of workers during work and in the workplace is in the interest of companies, because regulation of one’s feelings leads to several positive outcomes, such as a lower risk of depression [42], greater control over the expression of violence [43], a more developed sense of morality [44], and improved psychological development [45]. The importance of this study stems from the need for an understanding of the relationships between WORAF to provide full understanding of emotional regulation in the workplace.

Because this study used self-reported data collection through survey distribution, the research participants might possibly have been influenced to report the generally accepted psychological functioning or conduct in work environments rather than stating their actual feelings regarding each question in the survey. In addition, this study did not evaluate relationships with objective indicators, such as other affective states, in relation to particular conditions in the workplace. Because the study design was cross-sectional, causal relationships between variables are uncertain.

### 5.2. Comparison with Arabic and Turkish Respondents

To compare the results on the same basis, we conducted the same survey and performed the same analysis that we conducted for the Turkish respondents [13]. When we compared the Arabic and Turkish populations, we obtained similar results (Table 9). For Arabic respondents, one item, ANX7, was deleted from ANX, and one item, HAP7, was deleted from HAP to construct the final model. Three ANX (ANX2, ANX6, and ANX8) items, as well as one DEJ (DEJ3) item, were eliminated from the final model for the Turkish respondents, owing to low indicator loadings. Table 9 displays the  $p$ -values between the latent variables. Except for H1, the study's findings verified most of the hypotheses for both populations.

**Table 9.** Hypothesis assessment.

Relationship	Turkish Respondents (Çakıt et al., 2020)		Arabic Respondents (Current Study)	
	$p$ -Value	Decision	$p$ -Value	Decision
DEJ → HAP	0.411	H1: unsupported	0.136	H1: unsupported
ANG → HAP	0.001	H2: supported	0.000	H2: supported
ANX → HAP	0.001	H3: supported	0.000	H3: supported
DEJ → ANX	0.000	H4: supported	0.000	H4: supported
ANG → ANX	0.000	H5: supported	0.000	H5: supported
DEJ → ANX → HAP	0.004	H6: supported	0.000	H6: supported
ANG → ANX → HAP	0.001	H7: supported	0.002	H7: supported

$p$ -values were considered significant at the 0.05 level.

## 6. Conclusions

The variables used in this model were found to play key roles in feelings in the workplace. Furthermore, specific conclusions were reached with respect to the relationships among the four feelings considered. In particular, dejection and anger were found to have a significant effect on anxiety in the workplace. Furthermore, dejection, anger, and anxiety had a significant effect on happiness in the workplace. Evidence from empirical investigations using the dimensional method, which have shown that three of the work-related sentiments investigated herein are closely related, supports the theoretical presumptions and findings of our study [25,40,41]. The comparison results for the Arabic and Turkish populations indicated similar results between the Arabic and Turkish respondents. The WORAF scale was further validated by this study and may be used by other researchers interested in improving the understanding of psychological phenomena of individuals in the workplace. However, the findings in this study were deduced from a sample composed exclusively of Saudi workers. Hence, care should be exercised in generalizing the findings to other workers with different cultural or societal backgrounds. We recommend using the WORAF scale for conducting additional research involving other work communities. Researchers could use this scale to examine all four or just one of the work-related sensations indicated by the WORAF or to learn more about how people behave psychologically in the workplace. Future studies should consider both temporary and permanent characteristics, as well as the effects of interventions both within and among individuals. Similar tools for evaluating various emotional states in the workplace might be developed by using the WORAF scale. Finally, more research on possible gender differences in workplace emotion management is needed.

**Author Contributions:** Conceptualization, W.K. and M.A.J.; methodology, E.Ç. and T.M.; validation, A.A. (Awad Aljuaid), A.A. (Ashraf Alhujaili), E.Ç., M.A.J., T.M., A.M. and W.K.; data curation, A.A. (Awad Aljuaid) and A.A. (Ashraf Alhujaili); writing—original draft preparation, E.Ç.; writing—review and editing, A.A. (Awad Aljuaid), A.A. (Ashraf Alhujaili), E.Ç., M.A.J., T.M., A.M. and W.K.; supervision, W.K.; project administration, W.K. All authors have read and agreed to the published version of the manuscript.

**Funding:** Taif University Researchers Supporting Project number (TURSP-2020/229), Taif University, Taif, Saudi Arabia.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki, and approved by the scientific research ethics committee at Taif University approved this research with approval No. 42–62, dated 22 February 2021.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. Garcia, F. The role of feeling in the workplace. In *Growth and Change for Organizations: Transactional Analysis New Developments 1995–2006*; Mohr, G., Steinert, T., Eds.; International Transactional Analysis Association: Pleasanton, CA, USA, 2006; pp. 418–428.
2. Çakıt, E.; Karwowski, W.; Servi, L. Application of soft computing techniques for estimating emotional states expressed in Twitter® time series data. *Neural Comput. Appl.* **2019**, *32*, 3535–3548. [[CrossRef](#)]
3. Ashkanasy, N.M.; Humphrey, R.H. Current emotion research in organizational behavior. *Emot. Rev.* **2011**, *3*, 214–224. [[CrossRef](#)]
4. Thompson, L.L.; Medvec, V.H.; Seiden, V.; Kopelman, S. Poker face, smiley face, and rant and rave: Myths and realities about emotion in negotiation. In *Blackwell Handbook in Social Psychology*; Hogg, M.A., Tindale, S., Eds.; Blackwell: Malden, MA, USA, 2001; Volume 3, pp. 139–163.
5. Van Kleef, G.A. *The Interpersonal Dynamics of Emotion: Toward an Integrative Theory of Emotions as Social Information*; Cambridge University Press: Cambridge, UK, 2016.
6. Fineman, S. On Being Positive: Concerns and Counterpoints. *Acad. Manag. Rev.* **2006**, *31*, 270–291. [[CrossRef](#)]
7. Fisher, C.D. Happiness at Work. *Int. J. Manag. Rev.* **2010**, *12*, 384–412. [[CrossRef](#)]
8. Ekman, P. What scientists who study emotion agree about. *Perspect. Psychol. Sci.* **2016**, *11*, 31–34. [[CrossRef](#)] [[PubMed](#)]
9. Hareli, S.; Rafaeli, A.; Parkinson, B. Emotions as social entities: Interpersonal functions and effects of emotion in organizations. In *Research Companion to Emotion in Organizations*; Edward Elgar: Cheltenham, UK, 2008; pp. 349–359.
10. Zembylas, M. Theory and methodology in researching emotions in education. *Int. J. Res. Method Educ.* **2007**, *30*, 57–72. [[CrossRef](#)]
11. Kiefer, T.; Briner, R.B. Emotion at work. In *Developments in Work and Organizational Psychology: Implications for International Business*; Emerald Group Publishing: Bingley, UK, 2006; pp. 185–228.
12. Jaworek, M.A.; Marek, T.; Karwowski, W. The scale of Work-Related Affective Feelings (WORAF). *Appl. Ergon.* **2020**, *82*, 102945. [[CrossRef](#)]
13. Çakıt, E.; Karwowski, W.; Marek, T.; Jaworek, M.; Wrobel, G. A Cross-Sectional Study of the Relationships between Work-Related Affective Feelings Expressed by Workers in Turkey. *Int. J. Environ. Res. Public Health* **2020**, *17*, 9470. [[CrossRef](#)]
14. Weiss, H.M.; Brief, A.P. Affect at work: An historical perspective. In *Emotions at Work: Theory, Research, and Applications in Management*; Payne, R.L., Cooper, C., Eds.; Wiley: Chichester, UK, 2001.
15. Hochschild, A.R. *The Managed Heart: The Commercialization of Human Feeling*; University of California Press: Berkeley, CA, USA, 1983.
16. Basch, J.; Fisher, C.D. Affective events—emotions matrix: A classification of work events and associated emotions. In *Emotions in the Workplace: Research, Theory and Practice*; Ashkanasy, N.M., Härtel, C.E.J., Zerbe, W.J., Eds.; Quorum Books: Westport, UK, 2000; pp. 36–48.
17. Kiefer, T.; Barclay, L.; Frost, P.J. Understanding toxic emotions at work. In Proceedings of the Fifth European Academy of Management, Munich, Germany, 4–7 May 2005.
18. Hochschild, A.R. Emotion work, feeling rules, and social structure. *Am. J. Sociol.* **1979**, *85*, 551–575. [[CrossRef](#)]
19. Lyubomirsky, S.; King, L.; Diener, E. The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychol. Bull.* **2005**, *131*, 803. [[CrossRef](#)] [[PubMed](#)]
20. Owen, S. Professional learning communities: Building skills, reinvigorating the passion, and nurturing teacher wellbeing and “flourishing” within significantly innovative schooling contexts. *Educ. Rev.* **2016**, *68*, 403–419. [[CrossRef](#)]
21. McNally, J.; Blake, A.; Reid, A. The informal learning of new teachers in school. *J. Work. Learn.* **2009**, *21*, 322–333. [[CrossRef](#)]
22. Colley, H. Not learning in the workplace: Austerity and the shattering of illuio in public service work. *J. Work. Learn.* **2012**, *24*, 317–337. [[CrossRef](#)]
23. Rausch, A.; Schley, T.; Warwas, J. Problem solving in everyday office work—A diary study on differences between experts and novices. *Int. J. Lifelong Educ.* **2015**, *34*, 448–467. [[CrossRef](#)]
24. Rausch, A.; Seifried, J.; Harteis, C. Emotions, coping and learning in error situations in the workplace. *J. Work. Learn.* **2017**, *29*, 374–393. [[CrossRef](#)]
25. Russell, J.A. A Circumplex model of affect. *J. Personal. Soc. Psychol.* **1980**, *39*, 1161. [[CrossRef](#)]
26. Clark, J.C.; Groves, S. Teaching primary science: Emotions, identity and the use of practical activities. *Aust. Educ. Res.* **2012**, *39*, 463–475. [[CrossRef](#)]
27. Rager, K.B. I feel, therefore, I learn: The role of emotion in self-directed learning. *New Horiz. Adult Educ. Hum. Resour. Dev.* **2009**, *23*, 22–33. [[CrossRef](#)]

28. Sargeant, J.; Mann, K.; Sinclair, D.; Van der Vleuten, C.; Metsemakers, J. Understanding the influence of emotions and reflection upon multi-source feedback acceptance and use. *Adv. Health Sci. Educ.* **2008**, *13*, 275–288. [[CrossRef](#)] [[PubMed](#)]
29. Lazarus, R.; Cohen-Charash, Y. Discrete emotions in organizational life. In *Emotions at Work. Theory, Research and Applications for Management*; Payne, R.L., Cooper, C.L., Eds.; John Wiley and Sons Ltd.: Hoboken, NJ, USA, 2001; pp. 45–81.
30. Izard, C.E.; Ackerman, B.P. Motivational, organizational, and regulatory functions of discrete emotions. In *Handbook of Emotions*; Lewis, M., Haviland-Jones, J.M., Eds.; The Guilford Press: New York, NY, USA; London, UK, 2000; pp. 253–264.
31. Barr-Zisowitz, C. “Sadness”—Is there such a thing? In *Handbook of Emotions*; Lewis, M., Haviland-Jones, J.M., Eds.; Guilford Press: New York, NY, USA, 2000; pp. 607–622.
32. Garson, G.D. *Partial Least Squares: Regression and Structural Equation Models*; Statistical Associates Publishers: Asheboro, NC, USA, 2006.
33. Hair, J.F., Jr.; Hult, G.T.M.; Ringle, C.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*; Sage Publications: Thousand Oaks, CA, USA, 2016.
34. Daoud, J.I. Multicollinearity and regression analysis. *J. Phys. Conf. Ser.* **2017**, *949*, 012009. [[CrossRef](#)]
35. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *18*, 39–50. [[CrossRef](#)]
36. Cronbach, L.J. Coefficient alpha and the internal structure of tests. *Psychometrika* **1951**, *16*, 297–334. [[CrossRef](#)]
37. Carmines, E.G.; Zeller, R.A. *Reliability and Validity Assessment*; Sage Publications: Newbury Park, CA, USA, 1979; Volume 17.
38. Hair, J.F., Jr.; Sarstedt, M.; Hopkins, L.; Kuppelwieser, V.G. Partial least squares structural equation modeling (PLS-SEM). *Eur. Bus. Rev.* **2014**, *26*, 106–121. [[CrossRef](#)]
39. Henseler, J.; Ringle, C.M.; Sarstedt, M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* **2015**, *43*, 115–135. [[CrossRef](#)]
40. Van Katwyk, P.T.; Fox, S.; Spector, P.E.; Kelloway, E.K. Using the job-related affective well-being scale (JAWS) to investigate affective responses to work stressors. *J. Occup. Health Psychol.* **2000**, *5*, 219–230. [[CrossRef](#)]
41. Basińska, B.A.; Gruszczyńska, E.; Schaufeli, W.B. Psychometric properties of the Polish version of the job-related affective well-being scale. *Int. J. Occup. Med. Environ. Health* **2014**, *27*, 993–1004. [[CrossRef](#)]
42. Davidson, R.J.; Pizzagalli, D.; Nitschke, J.B.; Putnam, K. Depression: Perspectives from affective neuroscience. *Annu. Rev. Psychol.* **2002**, *53*, 545–574. [[CrossRef](#)]
43. Davidson, R.J.; Putnam, K.M.; Larson, C.L. Dysfunction in the neural circuitry of emotion regulation—A possible prelude to violence. *Science* **2000**, *289*, 591–594. [[CrossRef](#)]
44. Eisenberg, N. Emotion, regulation, and moral development. *Annu. Rev. Psychol.* **2000**, *51*, 665–697. [[CrossRef](#)]
45. Dodge, K.A. Coordinating responses to aversive stimuli: Introduction to a special section in the development of emotion regulation. *Dev. Psychol.* **1989**, *25*, 339–342. [[CrossRef](#)]