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RATING OF THE VALENCE OF TWENTY NEGATIVES IMAGES FROM IAPS BY A SAMPLE OF MOROCCAN NURSE STUDENTS

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SUMMARY

Background: This study aims to rate twenty negative images from IAPS among a sample nurse students. We compare the mean valences between males and females and between participants from the final semester and participants from the first semester. The comparison of the mean valences values between the current study and the norm mean valence values from IAPS was established.

Material/ Methods: We tested 100 students from Higher Institute of Nursing Professions and Technics of Health, Rabat, Morocco. The panel valence from SAM was used to evaluate the perceived pleasure and unpleased degree after exposing the different images from IAPS to the participants.

Results: The displeasure degree among nurse students from final semester is lower than that of the first semester with a significant difference in sixteen images. Regarding the difference between males and females, the significant difference was observed only in five images. The all images evaluated by participant were perceived as negative (valence <4). Regarding the comparison of the mean valences values between a the current study and the norm mean valence values from IAPS significant differences were observed.

Conclusions: Nurse students from the final semester, compared to the first semester students, perceived the negative images assessed as less unpleasant. However, we noted that the all images have kept the negative aspect. These results show that these images can be used as a negative emotional stimulus among this population.

Key words: IAPS, SAM, emotions, nurse students

INTRODUCTION

The IAPS is an emotional stimuli pictures database. This was designed by the Center for Emotion and Attention of the University of Florida. The aim of this data is to normalize affective stimuli, to control the experiment, to facilitate the results comparison from various psychological science laboratory (Lang, Bradley, & Cuthbert, 2008). The exploration of IAPS data shows 20 sets with 1530 pictures for adult experimentation.

To choose the database pictures the authors have used the self-assessment mannequin (SAM). The SAM is a visual instrument to evaluate three dimensions (pleasure, arousal and dominance) in response to an emotional situation (Lang, Bradley, & Cuthbert, 1997; Lang et al., 2008). The valence refers to degree of pleasure, the arousal indicate the reaction intensity and the dominance refers to the control situation.

To replicate the results of IAPS, several international study have been conducted. Bungener, Bonnet, & Fiori-Duharcourt (2016) in their study "Validation of 120 images of the IAPS in a French population aged from 20 to 88 years" revealed that, with three exceptions (Castle, three men in a tuxedo, naked man seen from behind) the all images from IAPS is a standard emotional stimuli in terms of valence. The affective assessment from the Bosnian and Herzegovinan sample was correlated intensely with the North American ratings (Drace, Efendic, Kusturica, & Landzo, 2013). Silva et al (2011) in the study entitled "International Affective Picture System (IAPS) in Chile: A crosscultural adaptation and validation study" revealed that two set (7 and 14) from IAPS are appropriate to the Chilean context. The same the IAPS can be used among braziliane population (Ribeiro, Pompéia, & Bueno, 2005). In the same vein, the mean valence of 60 images did not differ significantly between Flemish and North American.(Verschuere, Crombez, & Koster, 2001). In addition, the results obtained from a Bosnian sample confirm the intercultural validity of IAPS (Drace et al., 2013). In the nurses field Paes and all (2016) revealed that nurse students evaluate the image negatives fewer unpleasant than social work student.

The aim of this study is to evaluate twenty negative image from the APS among Moroccan nurse students sample.

MATERIALS AND METHODS

The negative images stimuli from the IAPS

Twenty negative images selected in the IAPS were used to induce emotions. The criterion of images choice is the valence average ≤ 4 (Grühn & Scheibe, 2008). The second, the pictures could refer to the nursing context. The following feature table indicates the information images (Table 1).

Table 1. Twenty image negatives from IAPS used as a stimuli to conduct experimentation (description, slide number, valence mean (SD)

Description	Slide Number	Valence Mean(SD)	Valence Mean males	Valence Mean Females	Set
Grieving Fem	2141	2.44 (1.64)	2.44(1.64)	2.27(1.76)	11
Hospital	2205	1.95 (1.58)	2.24(1.93)	1.65(1.05)	6
Crying Boy	2457	3.20 (1.51)	3.20(1.51)	2.91(1.36)	19
Drug addict	2717	2.58 (1.32)	2.98(1.58)	2.35(1.22)	16
Mutilation	3010	1.79 (1.28)	2.19(1.42)	1.29(0.82)	3
Bum victim	3110	1.79 (1.30)	1.79(1.30)	1.47(0.89)	6
Eye Disease	3160	2.63 (1.23)	2.73(1.12)	2.55(1.32)	3
Baby Tumor	3170	1.46 (1.01)	1.77(1.31)	1.20(0.57)	3
Battered Fem	3181	2.30 (1.43)	2.30(1.43)	2.01(1.29)	11
Stitches	3185	2.81(1.52)	2.81(1.52)	2.52(1.52)	18
Medical assist	3216	3.28 (1.64)	2.58(1.32)	3.09(1.57)	15
Dying Man	3230	2.02 (1.30)	2.44(1.50)	1.67(0.99)	3
Injured Child	3301	1.80 (1.28)	1.80(1.28)	1.49(0.81)	11
Scared child	9041	2.98 (1.58)	2.52(1.42)	2.65(1.58)	9
War Victim	9250	2.57 (1.39)	2.57(1.39)	2.34(1.28)	3
Durty	9300	2.26 (1.76)	2.26(1.76)	1.83(1.37)	4
Vomit	9326	2.21 (1.30)	2.21(1.30)	1.84(1.02)	18
Dental Exam	9584	3.34 (1.57)	3.34(1.57)	3.29(1.55)	11
Injection	9592	3.34 (1.75)	3.34(1.75)	2.88(1.67)	12
Car Accident	9903	2.36 (1.35)	2.36(1.35)	2.08(1.28)	16

The panel valence from SAM

The second instrument to conduct this study is the panel valence from SAM. This panel witch contain five mannequins used to rate the pleasure degree. It is ranging from happy to unhappy. Others adjectives refers to this dimension among others: "Pleased, satisfied, contented, and hopeful/ unhappy unhappy, annoyed, unsatisfied, melancholic, despaired, bored". The valence panel is ranging from the sad face to the smile face (Fig. 1).

Procedure experiment

The experiment was carried out taking into account the instructions of Lang et al. (2008). The experiments were conducted in a room under similar lighting.
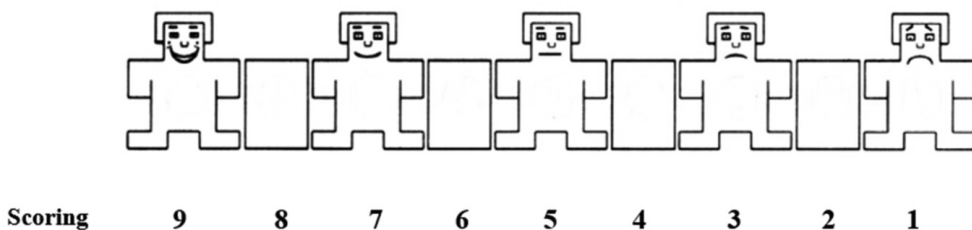

Fig. 1. Scoring of the panel valence from SAM
Source: Bradley & Lang, 2007

Participants were warmly welcomed and well informed about the purpose of the study. They have read and understood the consent to participate in the study. They also filled out a personal information sheet. The stages of the experiment were explained by the presentation of three images before proceeding to the actual experimental evaluation.

The slides, each containing a single image, were presented to the participants for 6 seconds per image. Immediately after, level of pleasure were attributed by ticking the corresponding number in the panel valence (Lang et al., 2008). If the participant feels completely, unhappy, bored, dissatisfied, melancholy, hopeless, when looking at the image, he make an "X" in the figure on the right (score=1) (Fig. 2). If the participant was completely happy, satisfied, hopeful he make an "X" on the figure on the left (score =9) (Fig. 3). If the subject feels completely neutral (neither happy nor sad), he make an "X" on the figure in the middle mannequin (score = 5) (Fig. 4). Also, the participant could choose intermediate mannequin (score 2, score3, score 4, score 6, score 7 or score 8) (Fig. 1).

Statistical analysis

The qualitative variables (gender and level study and marital family) were presented with effective and percentage. The variable quantitatives (age and valence) were presented with mean and standard deviation. The student t test was
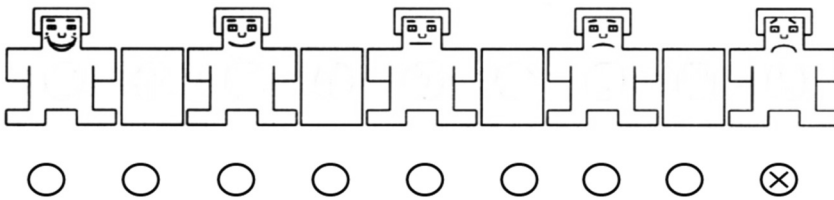

Fig. 2. Panel valence from SAM of participant feeling completely, unhappy when looking at the image
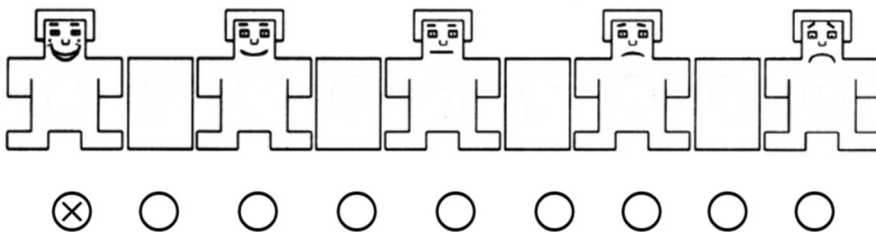

Fig. 3. Panel valence from SAM of participant feeling completely, happy when looking at the image
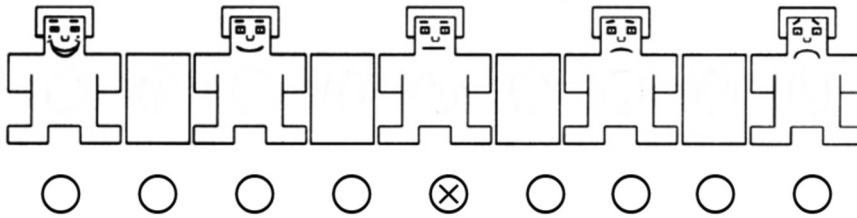
Fig. 4. Panel valence from SAM of participant feeling completely neutral when looking at the image

Table 2. Sociodemographic characteristics of participants

Effective	
• All	100
• Final semester	50 (50%)
• Semester 1	50 (50%)
MEAN AGE	
• All	19,56 (1,21)
• Final semester	20,60 (0,67)
• Semester 1	18,52 (0,54)
Gender	
• Male (28 Final Semester, 22 first Semester)	41 (41%)
• Female (31 Final Semester ,19 first Semester)	59 (59%)
Marital family	
• Single	98%
• Married	2%

calculated to compare mean valences between males and females and between the participants from the semester 1 and the final semester. The confidence interval is 95%. A p values < 0.05 were considered significant. To compare mean valences of each pictures from our sample with the given value from IAPS the t test student was calculated then the t was converted to p values using the student table.

RESULTS

The socioeconomic characteristics are presented in the Table 2. Concerning to the level study an equal effective to 50% has been recruited. The participant females effective is more than that of male.

The all subject were young and only 2% were married. The mean valences are presented in Table 3. The negative images means of the all participants and among males and females are less than 4. The Significant difference related to the level study is observed in sixteen negative images with a higher values among the final semester.

The negative images means among males and females are less than 4. The significant difference is observed in five images: Grieven Fem (p<0,01), Crying boy (p<0,001), Daying man (p<0,05), War Victim (p<0,01), Durty (p<0,05).

Table 3. Mean valences (±SD) among the all subjects, the first semester and the final semester

Images		Mean all subjects (±SD)	Mean student first semester (±SD)	Mean final semester (±SD)	*P value*
Grieving Fem	2141	2,39(0,83)	2,22 (0,47)	2,56 (1,05)	0,04
Hospital	2205	3,02 (0,78)	2,86 (0,86)	3,18 (0,66)	0,039
Crying Boy	2457	3,06 (0,79)	2,76 (0,92)	3,36 (0,49)	0,00
Drug addict	2717	2,68 (0,96)	2,4 (1,05)	2,96(0,78)	0,003
Mutilation	3010	1,64 (0,6)	1,30 (0,46)	1,98 (0,52)	0,00
Bum Victim	3110	1,51 (0,61	1,06 (0,24)	1,96 (0,53)	0,00
Eye Disease	3160	3,36 (0,58)	3,30 (0,65)	3,42 (0,51)	0,302
Baby Tumor	3170	2,16 (0,76)	1,84 (0,79)	2,48 (0,58)	0,00
Battered Fem	3180	2,18 (0,98)	1,44 (0,50)	2,92 (0,75)	0,00
Stitches	3185	2,31 (1,18)	1,31(0,46)	3,32 (0,71)	0,00
Medical assist	3216	2,39 (1,06)	1,50 (0,51)	3,28 (0,64)	0,00
Dying Man	3230	2,45 (0,97)	1,96 (0,86)	2,94 (0,82)	0,00
Injured Child	3301	2,4 (1,04)	1,88 (0,92)	2,92 (0,88)	0,00
Scared Child	9041	2,55(1,11)	1,56 (0,51)	3,54 (0,50)	0,00
War Victim	9250	2,42 (1,07)	2,22 (1,25)	2,62 (0,81)	0,061
Durty	9300	1,77(0,65)	1,36 (0,49)	2,18 (0,52)	0,00
Vomit	9326	1,82 (0,67)	1,36(0,49)	2,28 (0,50)	0,00
Dental Exam	9584	2,95 (0,91)	2,9 (1,09)	3,01 (0,71)	0,587
Injection	9592	2,88 (1,10)	2,22 (0,93)	3,54(0,50)	0,00
Car Accident	9903	2,15 (0,64)	2,04 (0,70)	2,26 (0,57)	0,086

DISCUSSION

This study aims to evaluate 20 images from a nursing students sample. In addition, this study seeks to compare the valence between men and women and between S1 and S2.

The results of this study show that the displeasure degree among nurse students from final semester is lower than that of the nurses students from S1 with a significant difference in sixteen images. This results is consistent with the single study conducted in the nurses training field which revealed that the nurses students evaluated the negative images as least unpleasant than the social work students (Paes et al., 2016). This difference can be due to the clinical internship effect in which nurse students are confronted with a various emotional situations.

Regarding the difference between males and females, the significant difference was observed only in five images. The same result was obtained by Mikels et all (2005) study which revealed that the difference related to gender was observed in a limited images. However other study showed that women and men react very differently to images (Silva, 2011; Soares et al., 2015).

Table 4. Mean valences (±SD) among the all subjects, the first semester and the final semester

Images	Images Number	Males mean student (±SD)	mean student Females (±SD	p value
Grieving Fem	2141	2,78(0,88)	2,12(0,67)	0,00
Hospital	2205	3,1(0,63)	2,97 (0,87)	0,409
Crying Boy	2457	3,37(0,62)	2,85 (0,83)	**0,001**
Drug addict	2717	2,56 (1,05)	2,76 (0,90)	0,305
Mutilation	3010	1,76 (0,70)	1,56 (0,50)	0,104
Burn victim	3110	1,49 (0,71)	1,53 (0,54)	0,764
Eye Disease	3160	3,44 (0,59)	3,31 (0,57)	0,256
Baby Tumor	3170	2,10(0,80)	2,20(0,74)	0,497
Battered Fem	3180	2,39 ((1,18)	2,03(0,79)	0,096
Stitches	3185	2,37 (1,36)	2,27 (1,05)	0,708
Medical assist	3216	2,46 (1,12)	2,34 (1,03)	0,567
Dying Man	3230	2,68 (1,04)	2,29 (0,89)	0,044
Injured Child	3301	2,51 (1,21)	2,32 (0,90)	0,393
Scared Child	9041	2,44 (1,10)	2,63 (1,13)	0,409
War Victim	9250	3,41 (0,74)	1,73 (0,61)	0,00
Durty	9300	1,59 (0,59)	1,90(0,66)	0,017
Vomit	9326	1,83 (0,67)	1,81(0,68)	0,909
Dental Exam	9584	2,93 (0,85)	2,97(0,96)	0,834
Injection	9592	2,71 (1,15)	3,00(0,87)	0,171
Car Accident	9903	2,22 (0,82)	2,10(0,48)	0,413

The all images evaluated by participant were perceived as negative (valence <4). These results show that the images from IAPS used in this study are appropriate among the Moroccan nurse students. This is consistent with a several previous study which showed that the IAPS can be used in different contexts. As well as Zemani reported that the International Affective Picture System (IAPS) is suitable of Iranian context (Zamani, 2017). The IAPS is appropriate to induct emotional state among brazil population (Ribeiro et al., 2005). In the same vein, the results obtained from the Bosnian sample confirm the intercultural validity of the IAPS (Drace et al., 2013).

Regarding the comparison of the mean valences values between a groups of this study and the norm mean valence values from IAPS, for the all participants the significant difference at 0,001 was observed in the rating of the folowing image: Hospital, Eye Disease, Baby Tumor, Medical assist, Injured Child. In addition significant difference at 0,01 was showed in the images: Stitches, Dying Man, Duty, Vomit and at 0,05 in Scared Child, Dental exam and Injection.

As to the comparison between male mean valences from our study and male participant from IAPS (normed values), the significant difference at 0,001 was

observed in Eye Disease, War Victim image, in Hospital Mutilation, Injured Child, Durty, and at 0,05 in Vomit and Injection. Concerning the difference between females participants, the significant difference was observed at 0,001 in Hospital, Eye Disease, Baby Tumor, Dying Man, Injured Child images, at the 0,01 in Mutilation, Medical assist, War Victim images and at 0,05 in Drug addict image.

CONCLUSION

Students from the final semester compared to the first semester perceived the negative images as less unpleasant. However, we note that all the images have kept the negative aspect of both group-nursing students. Therefore, the studied images can be used as a negative emotional stimulus among this population.

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