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## Ratings for emotion film clips

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**Abstract** Film clips are widely utilized to elicit emotion in a variety of research studies. Normative ratings for scenes selected for these purposes support the idea that selected clips correspond to the intended target emotion, but studies reporting normative ratings are limited. Using an ethnically diverse sample of college undergraduates, selected clips were rated for intensity, discreteness, valence, and arousal. Variables hypothesized to affect the perception of stimuli (i.e., gender, race–ethnicity, and familiarity) were also examined. Our analyses generally indicated that males reacted strongly to positively valenced film clips, whereas females reacted more strongly to negatively valenced film clips. Caucasian participants tended to react more strongly to the film clips, and we found some variation by race–ethnicity across target emotions. Finally, familiarity with the films tended to produce higher ratings for positively valenced film clips, and lower ratings for negatively valenced film clips. These findings provide normative ratings for a useful set of film clips for the study of emotion, and they underscore factors to be considered in research that utilizes scenes from film for emotion elicitation.

**Keywords** Emotion elicitation · Emotional films · Validation · Discrete emotions · Affect dimensions · Gender differences

Clips of scenes from popular films are frequently used in studies of emotion and mood induction, but fewer than a dozen studies have provided normative ratings for film clips. Historically, researchers relied primarily on self-produced film

clips that were not tested for efficacy or given normative ratings (Scott, 1930). More recently, researchers have begun using segments from feature length films, and several groups have studied how such clips elicit specific target emotions (Gross & Levenson, 1995; Hewig et al., 2005; McHugo, Smith, & Lanzetta, 1982; Philippot, 1993; von Leupoldt et al., 2007). Researchers often select clips based intuition about what they may elicit, but without empirical ratings for what they actually elicit. Among those studies in which researchers have attempted to obtain standardized ratings, there have been many variations in the types of materials used, such as those with no sound (Hagemann et al., 1999; Hewig et al., 2005; Tomarken, Davidson, & Henriques, 1990), those limited to black and white (McHugo et al., 1982), or those not produced in English (Philippot, 1993; Schaefer, Nils, Sanchez, & Philippot, 2010).

Gross and Levenson (1995) produced a comprehensive set of film clips and went to great lengths to offer standardized data about the degree to which the clips elicited specific target emotions. They also articulated a theoretical and methodological approach to developing stimuli, and their set is the most widely cited set of film clips for emotion elicitation. This was also one of the few studies conducted in an English-speaking population. Moreover, they reported that their film clips were more effective at eliciting target emotions more discretely than those from prior work (e.g., Philippot, 1993).

Although Gross and Levenson's (1995) stimulus set remains widely cited (e.g., Christie & Friedman, 2004; Fernandez et al., 2012; Jung & Young, 2012; Miller, Zielaskowski, Maner, & Plant, 2012; Rohrman, Hopp, Schienle, & Hodapp, 2009) and has been replicated internationally (e.g., Sato, Noguchi, & Yoshikawa, 2007), the normative ratings of the films it examines are nearly two decades old. This, along with attendant cultural changes, raises questions about how well their stimulus set might apply to contemporary audiences (e.g., shots of the New York City skyline

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pre-9/11). The present study was partially motivated by an unpublished pilot mood-induction study with university students in which several participants reported that the *Bambi* scene, which was identified by Gross and Levenson to elicit sadness, instead elicited anger.

Since Gross and Levenson (1995), only one other published study has identified and validated film clips in an English-speaking population (Rottenberg, Ray, & Gross, 2007). However, although the authors did add seven new clips, the majority of the film clips were from Gross and Levenson's existing database. Though some researchers do utilize film clips for which there are normative ratings, other labs are prone to use film clips developed in-house, for which there are no published normative ratings (e.g., Boiten, 1998; Erisman & Roemer, 2010; Thake & Zelenski, 2013; Vianna & Tranel, 2006; Waldstein et al., 2000). This practice limits generalizability across laboratories. Findings may also be confounded because, without normative ratings, it is unclear to what extent the clips elicit the target emotion. The same scene may also be perceived differently, depending on participant factors such as the observers' gender, race–ethnicity, or their familiarity with the material.

Emotion elicitation using film clips may be complicated further by the disparate ways in which researchers have conceptualized emotion. Some researchers have categorized emotions on the basis of the assumption that emotions are discrete and have measured the extent to which films discretely elicited these emotions. Frequent examples of such emotions include anger, sadness (Hagemann et al., 1999), fear (Philippot, 1993), amusement, contentment, contempt, relief, and embarrassment (Gross & Levenson, 1995). These researchers have argued that emotions can be easily discriminated against, citing autonomic distinctions between emotions (i.e., anger, disgust, fear; Levenson, 1992). Other researchers have conceptualized emotion in broad, overarching, dimensional terms, using valence (i.e., pleasant vs. unpleasant) and arousal to measure different emotional states (e.g., McHugo et al., 1982). Researchers who conceptualize emotions in affective dimensions have argued that some emotions (i.e., anger, disgust, fear) have patterns of overlap that are often confounded (Barrett, 2006; Christie & Friedman, 2004). Some researchers have described a hybrid discrete–dimensional model that combines both views and is more consistent with recent findings (see Christie & Friedman, 2004). Assessing both the discreteness of the target emotion and the affective dimensions of emotions elicited by a standardized set of film clips allows researchers to measure emotions using either of these conceptualizations.

For the present study, we created and validated (i.e., provided normative ratings for) a database of short film clips to elicit emotions for use in laboratory studies. We sought to build on and extend prior work by (1) including ratings scales based on the categorical DES-like scales used by Gross and

Levenson (1995), for purposes of comparison; (2) utilizing dimensional ratings scales modeled after those developed for the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 1999); and (3) examining sources of variability among participants. We also explored whether film clips might be perceived differently on the basis of participants' gender, race–ethnicity, and whether or not they have previously viewed the film (hereafter, *familiarity*).

## Method

### Participants

The participants consisted of 304 (128 males and 170 females, plus six participants who did not report their sex) undergraduate students recruited from Introductory Psychology courses at a small northeastern university. All participants were between the ages of 18 and 23 years ( $M = 18.9$ ,  $SD = 1.1$ ). Approximately half of the participants were Caucasian (51.8 %), whereas 33.6 % reported being African American, Asian, or Hispanic. The remaining 14.6 % of participants were another race–ethnicity or more than one race–ethnicity. This participant pool is more diverse than the University as a whole. Ethical approval was obtained from our local review board and the study protocol adhered to all APA ethical guidelines.

### Stimuli

Students in the university *Film Studies Program* provided suggestions for scenes for films for each of nine emotions. On the basis of these suggestions, as well as a review of prior studies, 18 film clips were selected to represent positively valenced emotions (i.e., amusement, excitement, and happiness) and negative emotions (i.e., anger, disgust, fear, sadness, and surprise).<sup>1</sup> Neutral film clips (i.e., calmness) were considered to have no valence. The target emotions were selected after a review of the precedent set in previous film database studies and other studies of emotion elicitation stimuli (Ekman & Friesen, 1976; Lang et al., 1999; Lundqvist, Flykt, & Öhman, 1998). The emotion 'excitement' was included in order to capture a specifically high arousal, positive emotional state. Calmness was included to represent a relaxed but positive state (see Hewig et al., 2005).

The selection of 18 total film clips for inclusion in the study resulted in two scenes for each of the nine target emotions: amusement (*Modern Times* and *The Hangover*), excitement (*300* and *The Bourne Identity*), happiness (*Remember the*

<sup>1</sup> In our study, film clips depicting surprise were negative; we note that surprise has been depicted positively and negatively in prior work (e.g., Vrticka, Lordier, Bediou, & Sander, 2013).

*Titans* and *Wall-E*), calmness (*Pride and Prejudice* and *Searching for Bobby Fischer*), anger (*Crash* and *Gentleman's Agreement*), disgust (*National Lampoon's Van Wilder* and *The Fly*), fear (*Psycho* and *The Ring*), sadness (*My Girl* and *The Shawshank Redemption*), and surprise (*D.O.A.* and *The Departed*).

The 18 film clips ranged in length from 1 min 5 s to 6 min 33 s, with an average length of 3 min 19 s. Specific details of the scene, including length, background music, and plot details, were taken into account when determining start and end times in order to concisely provide an intelligible context. All of the clips were from feature-length films, were produced (and presented) in English, and were commercially available for purchase. No two clips were from the same film. See Appendix 1 for detailed descriptions of the clips.

The 18 film clips were divided into two sets of nine scene types. To control for order effects, the order of clips in each set was pseudorandomly ordered to create three presentation sequences for each set, resulting in six total presentation sequences. In this arrangement, no more than two films of a particular valence appeared consecutively. See Appendix 2 for the variations in each presentation sequence for each of the two sets.

## Measures

Following the viewing of each clip, participants completed a modified version of the postfilm questionnaire (Rottenberg et al., 2007). Participants responded with the extent to which they had experienced each emotion, ranging from 0 (*not at all/none*) to 8 (*extremely/a great deal*). Participants were provided the option to write in emotional terms that they may have felt but that were not included in the form; however, there were not enough of these responses to warrant analysis (3 % of responses), and the responses varied. The form used in the present study was expanded to include a modified version of the IAPS ratings system, utilizing rating scales rather than the manikin system for valence and arousal (Lang et al., 1999). Participants indicated how they felt while viewing each clip from 0 (*unpleasant/relaxed*) to 5 (*pleasant/aroused*).

## Procedure

As with prior studies, participants viewed film clips in small groups (Gross & Levenson, 1995; Hagemann et al., 1999; Hewig et al., 2005; Schaefer et al., 2010; von Leupoldt et al., 2007); Group size varied from 1 to 17 participants (average size of 8.9).<sup>2</sup> The numbers of participants who viewed the two sets of nine films were relatively even (46.9 % of the sample in Group 1 vs. 53.1 % of the sample in Group 2). After all participants had arrived, they completed an informed consent

<sup>2</sup> There was only a single case of one participant viewing the clips alone.

and demographics form. Participants were amply spaced in a large lecture hall and were instructed not to communicate with one another until the study was over. Each could comfortably see the projector screen. The film clips were projected onto a screen with an LCD projector. Lighting level was dimmed so that both the projector screen and the questionnaires were easily visible. An introductory “practice” film clip, the introduction sequence from the series *Planet Earth*, was shown to each group of participants to ensure that they all understood the procedure. After the introductory clip, participants were prompted to fill out the first postfilm questionnaire and invited to ask questions about the procedure. When all participants were ready, the first experimental clip was presented. Participants were instructed to fill out a postfilm questionnaire after they had viewed each clip. Each session lasted about 1 h.

## Data analyses

Film clip ratings were characterized by the intensity and discreteness with which they elicited each of the nine target emotions. The average score of each target emotion represented intensity. To determine how discretely a scene elicited a target emotion, we identified instances for which the target emotion was at least one point greater than the nontarget emotions. For each participant, we counted the number of such instances. The discreteness score was the proportion of these instances over the total number of nontarget emotions. For the target emotion of amusement, for example, if the participant's amusement rating was at least 1 point greater than the ratings of seven of the eight nontarget emotions (but less than 1 point for the others), the discreteness score for that participant would be .87 (see Rottenberg et al., 2007). This score was then averaged for all participants for each specific film clip to produce an average discreteness score for that clip. The average discreteness score for each clip could range from .00 (i.e., on average, target emotion was not 1 point greater than any nontarget emotions) to 1.00 (i.e., on average, target emotion was at least 1 point greater than all nontarget emotions).

## Results

Overall, the analyses revealed intense and discrete film clips for a majority of the target emotions (Tables 1 and 2). Analyses of variance revealed gender, race–ethnicity, and familiarity differences in emotion for several films (Tables 3, 4, and 5).

*Amusement: Modern Times and The Hangover* The intensity rating for *Modern Times* was 5.2 ( $SD = 2.0$ ), and the average discreteness score was .88 (range .00–1.00; least discrete from

**Table 1** Average intensity ratings ( $M$ ,  $SD$ ) of target emotions by movies

	Target Emotions																	
	Amuse		Excite		Happy		Calm		Anger		Disgust		Fear		Sad		Surprise	
	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$
<i>Modern Times</i>	5.20	2.0	2.44	2.1	2.98	2.3	2.75	2.5	1.00	1.7	.73	1.6	.55	1.2	.81	1.5	1.52	1.8
<i>The Hangover</i>	6.78	1.4	4.39	2.1	4.74	2.2	3.52	2.5	.16	.5	1.41	2.0	.60	1.4	.22	.7	1.97	2.3
<i>300</i>	3.89	2.6	4.77	2.5	1.53	2.1	2.12	2.4	.13	.5	1.00	1.7	1.76	2.2	.82	1.7	1.30	1.9
<i>The Bourne Identity</i>	4.47	2.4	5.69	1.7	2.28	2.3	1.51	2.1	.34	1.0	.21	.9	1.93	2.7	.36	1.1	2.29	2.5
<i>Remember the Titans</i>	4.84	2.4	6.02	2.1	6.01	2.1	1.96	2.1	.34	.9	.21	.6	1.11	1.9	.73	1.4	1.27	2.0
<i>Wall-E</i>	5.72	1.6	3.82	2.3	6.00	1.8	5.77	1.9	.25	1.0	.53	1.4	.20	.9	.75	1.7	.56	1.2
<i>Pride &amp; Prejudice</i>	2.52	2.1	1.62	1.9	4.36	2.4	6.25	1.9	.88	1.8	.12	.7	.20	.7	.42	1.1	.30	.8
<i>Searching for Bobby Fischer</i>	3.21	2.0	1.56	1.7	2.30	2.2	4.89	2.2	1.16	2.2	.21	.9	.17	.6	1.26	2.1	1.80	2.3
<i>Crash</i>	1.15	1.8	1.13	1.6	.11	.4	1.00	1.5	6.18	2.0	6.56	2.1	2.70	2.6	4.34	2.6	2.98	2.7
<i>Gentleman's Agreement</i>	.97	1.7	.78	1.5	.28	.9	2.66	2.4	3.86	2.5	3.50	2.7	.59	1.2	3.39	2.5	1.99	2.2
<i>National Lampoon's Van Wilder</i>	4.55	2.4	1.89	2.3	1.49	2.1	2.09	2.5	.97	1.6	6.98	1.6	.43	1.3	.50	1.2	3.34	2.8
<i>The Fly</i>	1.74	2.3	1.76	2.1	.28	1.0	.80	1.5	.43	1.1	6.52	2.2	3.65	2.7	1.36	2.2	3.48	2.6
<i>Psycho</i>	1.91	2.2	2.51	2.3	.31	.9	1.05	1.6	1.56	2.2	2.73	2.5	4.53	2.5	2.37	2.4	3.40	2.7
<i>The Ring</i>	2.07	2.3	2.87	2.5	.30	.8	.93	1.6	.78	1.5	3.16	2.7	5.30	2.4	1.12	1.8	3.16	2.6
<i>My Girl</i>	.71	1.4	.27	.7	.13	.5	2.50	2.4	1.16	1.8	.56	1.3	.82	1.6	6.38	1.9	1.04	1.9
<i>The Shawshank Redemption</i>	1.27	1.9	.60	1.1	.54	1.2	2.69	2.5	1.43	2.1	1.09	2.0	2.33	2.5	6.88	1.5	2.40	2.6
<i>D.O.A.</i>	2.90	2.2	2.49	2.2	.93	1.7	3.46	2.5	.18	.6	.15	.7	.95	1.5	.21	.9	4.01	2.6
<i>The Departed</i>	3.13	2.8	4.23	2.4	1.25	2.1	1.12	2.0	1.40	2.2	2.01	2.4	2.78	2.6	1.26	2.1	4.78	3.0

Results for target emotions are shaded.

calmness,  $M = .76$ ). The amusement intensity rating for *The Hangover* was 6.8 ( $SD = 1.4$ ), and the average discreteness score was .92 (range .62–1.00; least discrete from happy,  $M = .78$ ). This film also had high intensity ratings for happiness ( $M = 4.7$ ,  $SD = 2.2$ ) and excitement ( $M = 4.4$ ,  $SD = 2.1$ ). Males rated *The Hangover* as being more amusing than did females [ $F(1, 120) = 4.44$ ,  $p = .04$ ]. We found no significant race–ethnicity difference for amusement for *The Hangover* ( $ps > .05$ ). Those who had seen *The Hangover* before rated it as being more amusing [ $F(1, 122) = 14.07$ ,  $p < .001$ ] than did those who had not. No significant gender, race–ethnicity, or familiarity differences were apparent for amusement for *Modern Times* ( $ps > .05$ ).

**Excitement:** *300* and *The Bourne Identity* *300* ( $M = 4.8$ ,  $SD = 2.5$ ) had a lower excitement intensity score than did *The Bourne Identity* ( $M = 5.7$ ,  $SD = 2.4$ ). The excitement average discreteness score for *300* was .77 (range .00–1.00), which was lower than that for *The Bourne Identity* ( $M = .88$ , range .00–1.00). Participants rated these films high on amusement ( $M = 3.9$ ,  $SD = 2.6$ ;  $M = 4.5$ ,  $SD = 2.4$ , respectively), and both were least discrete from amusement ( $Ms = .53$  and  $.59$ ,

respectively). Males rated *300* as being more exciting [ $F(1, 117) = 30.74$ ,  $p < .001$ ] than did females. No significant difference in race–ethnicity for excitement emerged for *300* ( $p > .05$ ). Seeing *300* before produced higher ratings for excitement [ $F(1, 119) = 22.76$ ,  $p < .001$ ] than among those who had not seen the film. We observed no significant gender, race–ethnicity, or familiarity differences for excitement for *The Bourne Identity* ( $ps > .05$ ).

**Happiness:** *Remember the Titans* and *Wall-E* Both movies were rated high on happiness ( $M = 6.0$ ,  $SD = 2.1$ ;  $M = 6.0$ ,  $SD = 1.8$ , respectively), and *Remember the Titans* was also rated high on excitement and amusement ( $M = 6.0$ ,  $SD = 2.1$ ;  $M = 4.8$ ,  $SD = 2.4$ , respectively). *Wall-E* was rated high for calmness and amusement ( $M = 5.8$ ,  $SD = 1.9$ ;  $M = 5.7$ ,  $SD = 1.6$ , respectively). The happiness average discreteness scores were the same for *Remember the Titans* and *Wall-E* ( $M = .80$ , range .00–1.00). For *Remember the Titans*, happiness was least discrete from excitement ( $M = .34$ ); for *Wall-E*, happiness was least discrete from calmness ( $M = .41$ ). There were no gender differences for *Remember the Titans* and *Wall-E*. We found a significant difference in race–ethnicity for happiness

**Table 2** Average discreteness scores ( $M$ ,  $SD$ ) of target emotions by movies

	$M$	$SD$	Range
<b>Amusement</b>			
Modern Times	.88	.21	.00–1.00
The Hangover	.92	.12	.62–1.00
<b>Excitement</b>			
300	.77	.31	.00–1.00
The Bourne Identity	.88	.14	.00–1.00
<b>Happiness</b>			
Remember the Titans	.80	.22	.00–1.00
Wall-E	.80	.20	.00–1.00
<b>Calmness</b>			
Pride and Prejudice	.92	.19	.00–1.00
Searching for Bobby Fischer	.81	.27	.00–1.00
<b>Anger</b>			
Crash	.79	.18	.00–1.00
Gentleman's Agreement	.65	.34	.00–1.00
<b>Disgust</b>			
National Lampoon's Van Wilder	.90	.19	.00–1.00
The Fly	.89	.23	.00–1.00
<b>Fear</b>			
Psycho	.72	.31	.00–1.00
The Ring	.79	.27	.00–1.00
<b>Sadness</b>			
My Girl	.96	.11	.00–1.00
The Shawshank Redemption	.96	.17	.12–1.00
<b>Surprise</b>			
D.O.A.	.70	.36	.00–1.00
The Departed	.68	.39	.00–1.00

for *Remember the Titans* [ $F(3, 115) = 8.41, p < .001$ ]. Post-hoc tests revealed that Caucasian participants rated *Remember the Titans* as being more happy than did Asian American participants ( $p < .001$ ). No significant difference in race–ethnicity for happiness was apparent for *Wall-E* ( $p > .05$ ). Those who had seen *Remember the Titans* and *Wall-E* rated the clips as being happier [ $F(1, 129) = 8.31, p < .005$ ;  $F(1, 116) = 6.68, p = .01$ , respectively] than did those who had not seen the film.

**Calmness:** *Pride and Prejudice* and *Searching for Bobby Fischer* *Pride and Prejudice* was rated high on calmness ( $M = 6.3, SD = 1.9$ ), and also 4.4 ( $SD = 2.4$ ) for happiness. The average discreteness score was .92 (range .00–1.00; least discrete from happy,  $M = .70$ ). *Searching for Bobby Fischer* was rated lower for calmness ( $M = 4.9, SD = 2.2$ ), but all other intensity ratings were 3.21 or below. Also, the average discreteness score was lower ( $M = .81$ , range .00–1.00; least discrete from amusement,  $M = .64$ ). No significant gender differences for calmness emerged for *Pride and Prejudice* and

*Searching for Bobby Fischer* ( $ps > .05$ ). We also observed no significant difference in race–ethnicity for calmness for *Pride and Prejudice* ( $p > .05$ ), but there was a trend difference in race–ethnicity for calmness for *Searching for Bobby Fischer* [ $F(3, 98) = 2.17, p = .09$ ]. Post-hoc tests revealed that Hispanic participants rated *Searching for Bobby Fischer* as being more calming than did Caucasian participants ( $p = .09$ ). Those who had seen *Pride and Prejudice* rated the clip as being more calming [ $F(1, 135) = 4.30, p = .04$ ] than did those who had not. We found no significant familiarity difference for calmness for *Searching for Bobby Fischer* ( $p > .05$ ).

**Anger:** *Crash* and *Gentleman's Agreement* *Crash* produced high anger ( $M = 6.2, SD = 2.0$ ) and disgust ( $M = 6.6, SD = 2.1$ ) ratings. The anger average discreteness score for *Crash* was .79 (range .00–1.00). *Gentleman's Agreement's* anger ratings were low ( $M = 3.9, SD = 2.5$ ), as was the average discreteness score ( $M = .65$ , range .00–1.00). Both films were least discrete from disgust ( $M_s = .15$  and  $.36$ , respectively). Females rated *Crash* as being higher on anger [ $F(1, 113) = 5.14, p = .03$ ] than did males, but there was no significant gender difference for anger for *Gentleman's Agreement* ( $p > .05$ ). No significant differences in race–ethnicity for anger emerged for *Crash* and *Gentleman's Agreement* ( $ps > .05$ ), and no differences among those who had seen and those who had not seen *Crash* for anger ( $p > .05$ ). Only one participant had seen *Gentleman's Agreement*; therefore, group differences for familiarity could not be analyzed.

**Disgust:** *National Lampoon's Van Wilder* and *The Fly* The disgust rating for *National Lampoon's Van Wilder* was 7.0 ( $SD = 1.6$ ), the highest intensity rating among the 18 film clips. Disgust had an average discreteness score of .90 (range .00–1.00) for *National Lampoon's Van Wilder*. Disgust was least discrete from amusement ( $M = .75$ ), due to participants giving it a high intensity score ( $M = 4.5, SD = 2.4$ ). A disgust intensity rating of 6.5 was elicited for *The Fly* ( $SD = 2.2$ ), which had a slightly lower average discreteness score (.89, range .00–1.00; least discrete from fear,  $M = .83$ ). We observed no significant gender difference for disgust for *National Lampoon's Van Wilder* ( $p > .05$ ). Additionally, females rated *The Fly* as being more disgusting than did males [ $F(1, 128) = 18.24, p < .001$ ]. No significant differences in race–ethnicity for disgust were apparent for *National Lampoon's Van Wilder* and *The Fly* ( $ps > .05$ ). Those who had seen *National Lampoon's Van Wilder* rated the clip as being less disgusting [ $F(1, 113) = 11.89, p = .001$ ] than did those who had not. No difference emerged between those who had seen and those who had not seen *The Fly* for disgust ( $p > .05$ ).

**Fear:** *Psycho* and *The Ring* Participants rated *Psycho* as being less fearful ( $M = 4.5, SD = 2.5$ ; average discreteness score,  $M = .72$ , range .00–1.00) than *The Ring* (intensity,  $M =$

**Table 3** Average intensity ratings (*M*, *SD*) for males and females by movie clips

	Sex	Target Emotions																	
		Amusement		Excitement		Happiness		Calmness		Anger		Disgust		Fear		Sadness		Surprise	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>MTI</i>	M (N = 48)	5.02	2.4	2.32	2.0	2.98	2.4	3.09	2.6	.86	1.7	.66	1.6	<b>.29</b>	<b>.9</b>	.63	1.2	1.45	1.8
	F (N = 74)	5.29	1.7	2.53	2.3	2.89	2.2	2.32	2.3	1.15	1.7	.79	1.6	<b>.74</b>	<b>1.4</b>	.99	1.6	1.58	1.8
<i>HAN</i>	M (N = 48)	<b>7.10</b>	<b>1.2</b>	<i>4.75</i>	<i>2.2</i>	<b>5.38</b>	<b>1.8</b>	3.81	2.5	.15	.5	1.21	2.1	.60	1.4	.29	.9	1.92	2.4
	F (N = 74)	<b>6.57</b>	<b>1.5</b>	<i>4.08</i>	<i>1.9</i>	<b>4.32</b>	<b>2.3</b>	3.33	2.4	.18	.5	1.59	1.9	.58	1.4	.18	.6	1.96	2.3
<i>300</i>	M (N = 45)	<b>5.02</b>	<b>2.3</b>	<b>6.13</b>	<b>1.9</b>	<b>2.84</b>	<b>2.1</b>	2.30	2.5	1.11	1.9	.80	1.7	<b>1.16</b>	<b>2.0</b>	.59	1.3	<i>.89</i>	<i>1.8</i>
	F (N = 75)	<b>3.20</b>	<b>2.5</b>	<b>3.85</b>	<b>2.3</b>	<i>.62</i>	<b>1.4</b>	1.96	2.3	.86	1.4	1.12	1.8	<b>2.14</b>	<b>2.3</b>	.95	1.9	<i>1.59</i>	<i>1.9</i>
<i>TBI</i>	M (N = 62)	<b>5.03</b>	<b>2.2</b>	5.94	1.7	<b>2.98</b>	<b>2.3</b>	<b>1.94</b>	<b>2.3</b>	.35	.8	.16	.5	<b>1.42</b>	<b>1.9</b>	.21	.6	2.23	2.6
	F (N = 73)	<b>4.01</b>	<b>2.4</b>	5.45	1.7	<b>1.66</b>	<b>2.1</b>	<b>1.14</b>	<b>1.8</b>	.51	1.4	.26	1.2	<b>2.41</b>	<b>2.4</b>	.49	1.4	2.40	2.3
<i>RTT</i>	M (N = 56)	5.14	2.4	6.30	2.0	6.13	2.3	1.68	2.1	.41	.9	.27	.7	1.27	2.1	.64	1.4	1.38	2.2
	F (N = 72)	4.61	2.4	5.75	2.2	5.88	2.0	2.10	2.0	.29	.8	.17	.6	1.03	1.7	.82	1.5	1.22	1.9
<i>WALL</i>	M (N = 46)	5.61	1.9	4.37	2.0	5.93	2.0	5.72	2.0	.37	1.1	.52	1.5	.26	1.0	.93	1.9	.54	1.3
	F (N = 71)	5.83	1.3	3.53	2.4	<i>6.10</i>	<i>1.7</i>	5.83	1.9	.17	1.0	.52	1.5	.17	.8	.65	1.6	.59	1.2
<i>PRP</i>	M (N = 62)	2.50	2.1	1.42	1.9	<b>3.69</b>	<b>2.6</b>	6.06	2.1	.13	.4	.13	.7	.21	.7	.37	1.0	.36	.9
	F (N = 73)	2.58	2.1	1.82	1.9	<b>4.92</b>	<b>2.0</b>	6.40	1.7	.14	.6	.11	.7	.19	.8	.48	1.3	.26	.7
<i>SBF</i>	M (N = 42)	3.36	2.2	<b>2.05</b>	<b>1.8</b>	2.83	2.5	4.76	2.4	.36	.8	.10	.6	.21	.7	<b>.76</b>	<b>1.7</b>	1.95	2.6
	F (N = 73)	3.16	1.9	<b>1.24</b>	<b>1.6</b>	2.03	2.0	4.90	2.2	.35	1.1	.28	1.0	.13	.5	<b>1.61</b>	<b>2.3</b>	1.64	2.0
<i>CRA</i>	M (N = 42)	1.36	1.4	1.26	1.6	.17	.44	1.14	1.7	<b>5.62</b>	<b>2.6</b>	<b>5.88</b>	<b>2.8</b>	<b>1.45</b>	<b>2.3</b>	3.86	2.4	2.74	2.8
	F (N = 73)	1.00	1.9	1.01	1.6	.06	.29	.90	1.4	<b>6.48</b>	<b>1.5</b>	<b>6.93</b>	<b>1.6</b>	<b>3.41</b>	<b>2.6</b>	4.59	2.7	3.14	2.6
<i>GTA</i>	M (N = 58)	1.19	1.7	1.00	1.7	<b>.48</b>	<b>1.2</b>	2.78	2.5	3.58	2.6	<b>3.02</b>	<b>2.5</b>	.50	1.0	2.98	2.5	2.02	2.2
	F (N = 74)	.82	.8	.64	1.2	<b>.14</b>	<b>.5</b>	2.53	2.3	4.15	2.4	<b>3.97</b>	<b>2.8</b>	.68	1.4	3.73	2.5	2.01	2.3
<i>NLVW</i>	M (N = 40)	<b>5.85</b>	<b>2.2</b>	<b>2.85</b>	<b>2.5</b>	<b>2.70</b>	<b>2.4</b>	<b>2.78</b>	<b>2.8</b>	.68	1.6	<i>6.63</i>	<i>1.9</i>	.40	1.4	.45	1.2	2.93	2.9
	F (N = 73)	<b>3.75</b>	<b>2.4</b>	<b>1.25</b>	<b>1.9</b>	<b>.68</b>	<b>1.4</b>	<b>1.66</b>	<b>2.1</b>	1.01	1.9	<i>7.18</i>	<i>1.4</i>	.46	1.3	.54	1.2	3.59	2.7
<i>TFL</i>	M (N = 60)	<b>2.12</b>	<b>2.5</b>	<b>2.20</b>	<b>2.3</b>	<b>.47</b>	<b>1.2</b>	<b>1.32</b>	<b>1.9</b>	<b>1.15</b>	<b>2.1</b>	5.78	2.7	3.27	2.6	1.50	2.2	3.65	2.5
	F (N = 70)	<b>1.29</b>	<b>2.1</b>	<b>1.41</b>	<b>1.9</b>	<b>.11</b>	<b>.6</b>	<b>.26</b>	<b>.7</b>	<b>1.21</b>	<b>2.3</b>	7.27	1.1	<i>4.11</i>	2.7	1.30	2.2	3.44	2.6
<i>PSY</i>	M (N = 60)	1.88	2.3	2.90	2.4	.45	1.1	<i>1.25</i>	<i>1.8</i>	1.32	2.0	<b>2.23</b>	<b>2.1</b>	<b>3.82</b>	<b>2.5</b>	2.12	2.3	3.48	2.8
	F (N = 70)	1.89	2.2	2.20	2.3	.20	.7	.77	1.2	1.84	2.4	<b>3.27</b>	<b>2.7</b>	<b>5.30</b>	<b>2.2</b>	2.69	2.6	3.40	2.7
<i>RING</i>	M (N = 42)	<b>2.79</b>	<b>2.5</b>	<b>3.76</b>	<b>2.5</b>	.45	.9	<b>1.36</b>	<b>1.9</b>	.88	1.5	2.69	2.6	<b>3.88</b>	<b>2.3</b>	1.45	2.1	2.76	2.5
	F (N = 72)	<b>1.58</b>	<b>2.1</b>	<b>2.32</b>	<b>2.4</b>	.20	.7	<b>.65</b>	<b>1.4</b>	.72	1.5	3.52	2.7	<b>6.13</b>	<b>2.1</b>	.94	1.6	3.35	2.6
<i>MYG</i>	M (N = 46)	.98	1.6	.26	.7	.13	.5	2.59	2.5	1.33	2.1	.76	1.7	.76	1.7	<b>6.00</b>	<b>2.1</b>	1.24	2.0
	F (N = 70)	.50	1.2	.27	.8	.12	.4	2.41	2.3	1.04	1.6	.42	1.0	.86	1.6	<b>6.73</b>	<b>1.5</b>	.83	1.7
<i>SHW</i>	M (N = 62)	<b>1.82</b>	<b>2.3</b>	.74	1.2	.71	1.4	<b>3.18</b>	<b>2.4</b>	1.50	2.0	1.24	2.1	2.15	2.5	<b>6.42</b>	<b>1.8</b>	2.24	2.5
	F (N = 74)	<b>.81</b>	<b>1.5</b>	.50	1.0	.41	.9	<b>2.23</b>	<b>2.0</b>	1.42	2.1	1.00	1.9	2.54	2.5	<b>7.26</b>	<b>1.0</b>	2.59	2.6
<i>DOA</i>	M (N = 44)	3.41	2.5	2.66	2.4	<i>1.30</i>	<i>2.1</i>	3.30	2.6	.27	.8	<b>.36</b>	<b>1.1</b>	.75	1.5	.25	1.1	3.66	2.8
	F (N = 74)	2.59	2.0	2.39	2.1	.68	1.4	3.52	2.4	.12	.5	<b>.03</b>	<b>.2</b>	1.03	1.6	.18	.8	4.22	2.4
<i>DEP</i>	M (N = 62)	<b>4.27</b>	<b>2.7</b>	<b>5.06</b>	<b>1.9</b>	<b>2.06</b>	<b>2.5</b>	<b>1.84</b>	<b>2.4</b>	1.42	2.1	<b>1.21</b>	<b>1.8</b>	<b>1.71</b>	<b>2.3</b>	1.13	1.9	4.35	2.1
	F (N = 73)	<b>2.05</b>	<b>2.4</b>	<b>3.44</b>	<b>2.4</b>	<b>.45</b>	<b>1.3</b>	<b>.47</b>	<b>1.1</b>	1.42	2.2	<b>2.75</b>	<b>2.7</b>	<b>3.77</b>	<b>2.5</b>	1.41	2.3	5.27	2.7

Results for target emotions are shaded. Numbers in bold represent significant ( $p < .05$ ) differences in emotion. Numbers in italics represent trend ( $p > .05-.10$ ) differences in emotion. Row key: *MTI* = *Modern Times*, *HAN* = *The Hangover*, *TBI* = *The Bourne Identity*, *RTT* = *Remember the Titans*, *WALL* = *WALL-E*, *PRP* = *Pride and Prejudice*, *SBF* = *Searching for Bobby Fischer*, *CRA* = *Crash*, *GTA* = *Gentleman's Agreement*, *NLVW* = *National Lampoon's Van Wilder*, *TFL*, *The Fly*, *PSY* = *Psycho*, *RING* = *The Ring*, *MYG* = *My Girl*, *SHW* = *The Shawshank Redemption*, *DEP* = *The Departed*

5.3,  $SD = 2.4$ ; average discreteness score,  $M = .79$ , range .00–1.00). Fear was least discrete ( $M = .57$ ) from surprise (intensity:  $M = 3.4$ ,  $SD = 2.7$ ) for *Psycho*, whereas fear was

least discrete ( $M = .65$ ) from disgust (intensity:  $M = 3.2$ ,  $SD = 2.7$ ) for *The Ring*. Females rated *Psycho* and *The Ring* [ $F(1, 128) = 13.23$ ,  $p < .001$ ;  $F(1, 112) = 28.43$ ,  $p < .001$ ,

**Table 4** Average intensity ratings (*M*, *SD*) for race–ethnicity by movie clips

	Sex	Target Emotions																	
		Amusement		Excitement		Happiness		Calmness		Anger		Disgust		Fear		Sadness		Surprise	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>MTI</i>	White (N = 73)	5.29	1.8	2.53	2.0	2.96	2.0	2.59	2.5	1.04	1.6	.71	1.6	.59	1.4	.64	1.3	1.48	1.7
	African American (N = 11)	4.82	2.8	2.73	2.8	3.27	3.0	3.00	2.5	.64	1.3	.36	.7	.55	.9	.73	1.3	2.64	2.4
	Asian American (N = 27)	5.52	2.2	2.63	2.4	3.37	2.6	2.74	2.5	.89	1.8	.52	1.5	.33	.9	1.00	1.7	1.59	1.9
	Hispanic (N = 4)	5.00	3.2	.25	.5	2.75	3.8	4.75	3.3	.25	.5	.75	1.0	.00	.0	1.25	1.5	.00	.0
	<i>HAN</i>	White (N = 62)	6.84	1.3	4.56	2.0	4.94	2.2	3.50	2.5	.15	.5	1.44	2.0	.42	1.1	.24	.8	1.82
	African American (N = 7)	7.14	.7	4.42	2.7	5.00	1.3	2.43	1.9	.29	.8	1.00	2.2	1.57	2.0	.57	1.1	3.29	3.5
	Asian American (N = 28)	6.54	1.7	4.21	2.0	4.14	2.7	3.89	2.7	.11	.3	1.29	1.9	.36	1.0	.11	.3	2.39	2.4
	Hispanic (N = 7)	7.43	.8	4.86	2.0	5.14	1.6	2.86	2.2	.43	.8	.86	1.5	1.57	2.6	.14	.4	2.71	2.4
<i>300</i>	White (N = 66)	3.79	2.6	4.85	2.5	1.51	2.0	<b>1.58</b>	<b>2.1</b>	1.23	1.8	1.20	1.8	2.15	2.4	1.08	2.0	1.09	1.7
	African American (N = 6)	4.83	2.8	5.67	1.4	.50	1.2	<b>2.50</b>	<b>3.0</b>	1.67	2.7	1.00	2.5	.67	1.6	.00	.0	2.00	3.3
	Asian American (N = 24)	3.08	2.5	3.71	2.7	1.46	2.1	<b>3.21</b>	<b>2.5</b>	.58	1.2	1.13	1.7	1.79	2.4	.88	1.5	1.71	1.9
	Hispanic (N = 6)	4.00	2.5	4.67	2.9	.50	1.2	<b>3.67</b>	<b>3.5</b>	.33	.8	.83	2.0	.67	1.2	.83	1.6	2.17	2.6
	<i>TBI</i>	White (N = 70)	4.84	2.3	5.90	1.7	2.56	2.3	1.47	2.0	.31	.8	.16	.7	1.99	2.1	.24	.8	2.43
	African American (N = 14)	4.36	2.2	5.00	1.9	2.00	2.0	1.57	2.4	.36	.7	.14	.5	1.71	2.4	.57	1.2	2.77	2.7
	Asian American (N = 31)	3.94	2.3	5.90	1.3	1.71	2.2	1.81	2.4	.39	.9	.16	.6	1.61	2.3	.16	.5	1.97	2.6
	Hispanic (N = 6)	4.50	1.8	5.50	2.1	2.17	3.1	1.17	1.2	1.50	2.1	.50	1.2	2.00	2.7	1.17	1.8	1.33	2.2
<i>RTT</i>	White (N = 73)	<b>5.30</b>	<b>2.2</b>	<b>6.47</b>	<b>1.6</b>	<b>6.62</b>	<b>1.5</b>	1.90	2.0	.19	.6	.12	.5	1.16	1.9	.73	1.4	1.15	2.0
	African American (N = 11)	<b>5.00</b>	<b>2.9</b>	<b>5.91</b>	<b>2.8</b>	<b>5.91</b>	<b>2.3</b>	2.27	2.1	.45	.9	.27	.6	1.27	1.7	.27	.6	.91	1.3
	Asian American (N = 27)	<b>3.37</b>	<b>2.3</b>	<b>5.04</b>	<b>2.6</b>	<b>4.41</b>	<b>2.7</b>	1.74	2.1	.52	1.2	.48	.9	.89	1.7	.85	1.6	1.52	2.3
	Hispanic (N = 4)	<b>6.50</b>	<b>2.4</b>	<b>6.25</b>	<b>2.9</b>	<b>6.50</b>	<b>2.4</b>	.50	.6	1.25	2.5	.00	.0	.00	.0	.75	1.5	.75	1.5
<i>WALL</i>	White (N = 58)	5.76	1.7	4.03	2.4	6.33	1.6	5.74	2.0	.41	1.4	.64	1.6	.26	1.0	1.02	2.0	.24	.7
	African American (N = 8)	6.00	1.1	3.63	2.4	6.13	1.7	6.38	1.8	.00	.0	.00	.0	.00	.0	.00	.0	.75	1.4
	Asian American (N = 25)	5.52	1.7	3.68	2.6	5.60	1.9	6.04	1.6	.04	.2	.64	1.6	.24	1.2	.84	1.6	.88	1.5
	Hispanic (N = 7)	5.71	2.8	2.43	2.2	5.43	1.4	6.14	1.2	.57	1.5	.43	1.1	.00	.0	.43	1.1	<b>1.29</b>	<b>1.9</b>
	<i>PRP</i>	White (N = 69)	2.70	1.9	1.61	1.7	<b>4.43</b>	<b>2.0</b>	6.47	1.4	<b>.09</b>	<b>.4</b>	.07	.6	.14	.5	.37	1.1	.25
	African American (N = 14)	1.71	2.1	.86	1.5	<b>2.50</b>	<b>2.7</b>	6.21	1.6	<b>.43</b>	<b>.8</b>	.14	.5	.21	.8	.36	1.1	.64	1.3

respectively] as being more fearful than did males. We found no significant differences in race–ethnicity for fear for *Psycho* or *The Ring* ( $ps > .05$ ), as well as no difference among those who had seen and those who had not seen *Psycho* for fear ( $p > .05$ ). Individuals who had seen *The Ring* before rated it as being less fearful [ $F(1, 115) = 15.05, p < .001$ ] than did who had not.

*Sadness: My Girl and The Shawshank Redemption* *My Girl* elicited a sadness intensity rating of 6.4 ( $SD = 1.9$ ; see Fig. 1a), and the average discreteness score was .96 (range .00–1.00). The sadness intensity rating for *The Shawshank Redemption* was higher ( $M = 6.9, SD = 1.5$ ), and the movie had an average discreteness score of .96 (range .12–1.00). These films received higher average discreteness scores than the other films.



Table 4 (continued)

	Sex	Target Emotions																	
		Amusement		Excitement		Happiness		Calmness		Anger		Disgust		Fear		Sadness		Surprise	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
SBF	Asian American (N = 31)	2.77	2.3	1.97	2.0	<b>5.32</b>	<b>2.4</b>	6.81	1.6	<b>.06</b>	<b>.2</b>	.03	.2	.26	1.0	.35	.8	.35	.8
	Hispanic (N = 6)	2.17	3.1	1.33	3.3	<b>4.50</b>	<b>2.7</b>	5.67	3.1	<b>.00</b>	<b>.0</b>	.50	1.2	.33	.8	1.50	2.8	.17	.4
	White (N = 65)	3.23	2.1	1.82	1.8	2.54	2.2	4.72	2.3	.31	.9	.25	1.0	.17	.6	1.48	2.2	2.11	2.5
	African American (N = 4)	3.75	1.7	2.00	2.2	3.00	2.0	4.00	3.6	1.00	2.0	.75	1.5	.00	.0	1.25	2.5	1.75	3.5
CRA	Asian American (N = 24)	2.63	1.9	1.46	1.4	2.21	2.4	5.17	2.2	.17	.5	.00	.0	.21	.7	.88	1.9	1.42	2.0
	Hispanic (N = 5)	3.80	1.9	.80	1.8	.80	1.8	7.20	.5	.00	.0	.00	.0	.00	.0	.40	.5	1.80	2.2
	White (N = 65)	1.23	1.7	1.20	1.7	.08	.3	.82	1.4	<b>6.25</b>	<b>2.1</b>	6.89	1.7	3.17	2.6	4.54	2.5	<b>2.85</b>	<b>2.7</b>
	African American (N = 4)	.00	.0	1.00	2.0	.00	.0	.50	1.0	<b>7.50</b>	<b>1.0</b>	6.00	4.0	3.25	2.8	6.00	1.4	<b>5.25</b>	<b>3.6</b>
GTA	Asian American (N = 24)	1.17	1.7	1.67	1.8	.25	.6	1.75	2.0	<b>5.71</b>	<b>1.8</b>	5.17	2.8	2.13	2.3	3.25	2.6	<b>2.83</b>	<b>2.4</b>
	Hispanic (N = 5)	.80	1.8	.40	.9	.00	.0	.80	1.3	<b>6.80</b>	<b>1.6</b>	7.20	1.3	2.40	2.9	5.00	3.0	<b>5.80</b>	<b>1.1</b>
	White (N = 73)	1.10	1.8	.74	1.4	.22	.6	2.73	2.2	<b>4.12</b>	<b>2.4</b>	3.85	2.7	.53	1.2	3.63	2.4	2.19	2.1
	African American (N = 13)	.77	1.4	.38	.8	.15	.4	2.46	2.4	<b>2.92</b>	<b>2.9</b>	3.23	3.2	.85	1.7	2.77	2.6	1.92	2.1
NLVW	Asian American (N = 27)	.96	1.8	.81	1.6	.52	1.3	3.07	2.7	<b>3.07</b>	<b>2.2</b>	2.07	1.9	.67	1.3	2.48	2.4	1.56	2.3
	Hispanic (N = 5)	.20	.5	.40	.9	.20	.5	1.80	2.5	<b>3.80</b>	<b>2.8</b>	2.80	3.1	.60	1.3	2.80	3.0	.60	1.3
	White (N = 61)	3.85	2.5	1.64	2.1	1.21	1.9	1.62	2.4	.93	2.1	7.21	1.4	.38	1.2	.46	1.0	3.13	2.7
	African American (N = 6)	6.27	1.7	3.83	3.1	2.00	1.9	2.00	2.2	.67	1.6	7.33	1.2	1.00	2.0	.33	.8	5.00	3.0
TFL	Asian American (N = 23)	5.09	2.5	1.96	2.1	1.87	2.5	3.22	2.8	.87	1.4	6.53	1.8	.39	1.2	.30	.8	3.09	2.6
	Hispanic (N = 5)	5.80	2.3	2.40	2.6	1.40	1.5	2.00	2.8	.40	.9	7.80	.4	.40	.9	.40	.5	<b>5.20</b>	<b>3.3</b>
	White (N = 66)	1.91	2.4	1.89	2.1	.29	.8	.82	1.6	<b>.79</b>	<b>1.7</b>	6.38	2.1	3.48	2.7	1.32	2.1	<b>4.02</b>	<b>2.5</b>
	African American (N = 15)	1.33	1.9	.67	1.2	.07	.3	1.00	1.6	<b>.60</b>	<b>1.4</b>	7.07	1.6	3.27	2.7	1.00	1.8	<b>2.80</b>	<b>2.8</b>
PSY	Asian American (N = 28)	1.50	2.4	1.79	2.3	.14	.4	.71	1.6	<b>2.36</b>	<b>3.0</b>	6.79	2.3	3.86	2.5	1.46	2.3	<b>2.68</b>	<b>2.5</b>
	Hispanic (N = 6)	1.33	2.4	1.67	2.9	.17	.4	1.17	1.6	<b>1.17</b>	<b>1.9</b>	7.00	1.7	2.00	3.1	3.17	3.7	1.83	2.1
	White (N = 66)	1.98	2.1	3.00	2.5	.32	1.1	1.14	1.8	1.50	2.1	2.55	2.4	<b>4.38</b>	<b>2.4</b>	2.38	2.5	3.39	2.7
	African American (N = 15)	1.93	2.5	1.33	1.7	.33	.7	1.27	1.6	1.07	1.6	2.93	2.6	<b>3.67</b>	<b>2.8</b>	2.13	2.0	3.40	2.5
RING	Asian American (N = 28)	1.93	2.5	2.57	2.2	.29	.6	1.21	1.6	1.54	2.3	2.32	2.5	<b>5.07</b>	<b>2.1</b>	2.04	2.3	3.79	2.8
	Hispanic (N = 6)	1.17	2.4	1.50	1.8	.17	.4	.67	.8	2.00	3.2	3.83	2.3	<b>4.67</b>	<b>2.7</b>	3.33	3.1	3.00	3.5
	White (N = 65)	2.03	2.3	2.78	2.6	.20	.7	.78	1.6	1.00	1.8	3.08	2.6	5.42	2.3	1.17	1.8	3.06	2.6
	African American (N = 4)	2.25	3.3	3.50	4.1	.75	1.5	.50	1.0	1.50	1.9	2.50	3.0	<b>4.00</b>	<b>4.1</b>	.00	0	3.75	2.9
	Asian American (N = 24)	2.63	2.5	3.67	2.5	.50	1.0	1.38	1.8	.38	.9	3.79	2.8	<b>5.04</b>	<b>2.3</b>	1.02	1.7	3.63	2.6
	Hispanic (N = 5)	2.20	1.8	1.40	1.7	.00	.0	.20	.5	.40	.9	4.20	2.7	<b>6.20</b>	<b>1.8</b>	1.60	2.1	1.60	2.5

Sadness was least discrete from calmness for both films ( $M_s = .86$  and  $.91$ , respectively). Females found *My Girl* and *The*

*Shawshank Redemption* to be sadder than did males [ $F(1, 114) = 4.62, p = .03$ ;  $F(1, 134) = 11.52, p = .001$ , respectively]. We

**Table 4** (continued)

	Sex	Target Emotions																	
		Amusement		Excitement		Happiness		Calmness		Anger		Disgust		Fear		Sadness		Surprise	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>MYG</i>	White (N = 58)	.81	1.4	.31	.7	.12	.5	2.14	2.2	1.19	1.7	.53	1.1	.86	1.6	<b>6.76</b>	<b>1.5</b>	1.07	1.8
	African American (N = 8)	.13	.3	.00	.0	.00	.0	2.13	2.4	1.25	1.7	.13	.3	.25	.7	<b>7.25</b>	<b>.9</b>	.00	.0
	Asian American (N = 25)	.72	1.8	.36	.8	.24	.6	3.24	2.3	1.20	2.1	.88	2.0	.88	1.8	<b>5.36</b>	<b>2.5</b>	1.60	2.5
	Hispanic (N = 7)	1.14	1.7	.29	.8	.14	.4	3.86	2.9	1.86	2.6	.71	1.9	.71	1.9	<b>6.71</b>	<b>1.7</b>	.43	1.1
<i>SHW</i>	White (N = 71)	1.41	1.9	.63	1.1	.56	1.2	<i>2.79</i>	<i>2.1</i>	1.45	2.0	<i>1.31</i>	2.2	2.04	2.3	6.92	1.2	2.14	2.5
	African American (N = 14)	.86	1.5	.36	1.1	.29	.8	<i>2.79</i>	<i>2.0</i>	1.57	1.8	<i>1.21</i>	<i>1.8</i>	2.57	2.8	6.21	2.2	2.43	2.0
	Asian American (N = 31)	.94	1.9	.71	1.2	.68	1.3	<i>3.00</i>	<i>2.6</i>	1.19	1.9	.29	.6	2.52	2.5	7.06	1.7	2.45	2.6
	Hispanic (N = 5)	.67	1.6	.33	.5	.17	.4	.33	.5	2.50	2.4	<i>1.33</i>	<i>2.4</i>	2.33	3.2	7.33	.5	3.82	2.6
<i>DOA</i>	White (N = 65)	3.11	2.3	<b>3.02</b>	<b>2.3</b>	<b>1.20</b>	<b>1.9</b>	3.18	2.5	.17	.6	<b>.06</b>	<b>.3</b>	1.05	1.6	.23	1.1	4.26	2.6
	African American (N = 6)	3.17	2.8	<b>.33</b>	<b>.8</b>	<b>.17</b>	<b>.4</b>	4.83	3.2	.67	1.0	<b>1.50</b>	<b>2.3</b>	1.17	1.8	.83	1.3	3.50	2.5
	Asian American (N = 24)	2.50	2.1	<b>2.33</b>	<b>2.0</b>	<b>.33</b>	<b>1.1</b>	3.67	1.9	.17	.6	<b>.08</b>	<b>.4</b>	1.08	1.6	.21	.5	4.21	2.4
	Hispanic (N = 6)	2.67	2.2	<b>1.83</b>	<b>1.7</b>	<b>.17</b>	<b>.4</b>	6.33	1.2	.17	.4	<b>.00</b>	<b>.0</b>	.50	.8	.00	.0	4.33	2.6
<i>DEP</i>	White (N = 70)	3.33	2.9	4.26	2.4	1.41	2.1	1.10	2.0	1.34	2.0	2.03	2.4	2.61	2.5	1.20	2.0	4.99	2.8
	African American (N = 14)	3.79	2.6	4.43	2.1	.79	1.4	1.64	2.0	1.29	1.6	1.21	1.6	2.36	2.5	.79	1.8	3.93	3.4
	Asian American (N = 31)	2.45	2.4	4.03	2.5	.94	2.1	.77	1.6	1.13	2.2	1.84	2.5	3.06	2.5	1.16	2.0	5.00	2.8
	Hispanic (N = 6)	4.67	2.8	5.00	1.7	1.50	3.2	1.67	2.9	2.33	2.6	2.67	2.7	2.53	3.4	2.83	3.2	5.17	3.1

Results for target emotions are shaded. Numbers in bold represent significant ( $p < .05$ ) differences in emotion. Numbers in italics represent trend ( $ps > .05$ –.10) differences in emotion. *N* = have not seen the movie, *Y* = have seen the movie. Row key: *MTI* = *Modern Times*, *HAN* = *The Hangover*, *TBI* = *The Bourne Identity*, *RTT* = *Remember the Titans*, *WALL* = *WALL-E*, *PRP* = *Pride and Prejudice*, *SBF* = *Searching for Bobby Fischer*, *CRA* = *Crash*, *GTA* = *Gentleman's Agreement*, *NLVW* = *National Lampoon's Van Wilder*, *TFL*, *The Fly*, *PSY* = *Psycho*, *RING* = *The Ring*, *MYG* = *My Girl*, *SHW* = *The Shawshank Redemption*, *DEP* = *The Departed*

also observed a significant difference in race–ethnicity for sadness for *My Girl* [ $F(3, 98) = 4.13, p = .008$ ]. Post-hoc tests revealed that both Caucasian participants ( $p = .009$ ) and African American participants ( $p = .06$ ) rated *My Girl* as being sadder than did Asian American participants. There was no significant difference in race–ethnicity for sadness for *The Shawshank Redemption* ( $p > .05$ ). Those who had seen *My Girl* also produced greater emotions of sadness [ $F(1, 117) = 4.67, p = .03$ ] than did those who had not. No significant differences in gender and familiarity for *The Shawshank Redemption* emerged for sadness ( $ps > .05$ ).

**Surprise:** *The Departed* and *D.O.A* Both clips were rated as being low for surprise ( $M = 4.8, SD = 3.0$ ;  $M = 4.0, SD = 2.6$ , respectively). The average discreteness scores for surprise for *The Departed* and *D.O.A* were lower than those for the other film clips ( $Ms = .68$  and  $.70$ , respectively). Surprise was least discrete ( $M = .57$ ) from excitement ( $M = 4.2, SD = 2.4$ ) for *The Departed*, whereas it was least discrete ( $M = .52$ ) from

calmness ( $M = 3.5, SD = 2.5$ ) for *D.O.A*. Females rated *The Departed* as being more surprising [ $F(1, 133) = 3.40, p = .07$ ] than did males, and males rated *D.O.A* as being more disgusting than did females [ $F(1, 115) = 6.36, p = .01$ ]. No significant differences in race–ethnicity for surprise were apparent for *The Departed* and *D.O.A*. ( $ps > .05$ ). Those who had not seen *The Departed* rated the clip as being more surprising [ $F(1, 135) = 36.30, p < .001$ ]. Only two participants had seen *D.O.A*.; therefore, group differences could not be analyzed.

#### Analyses of arousal and valence

Overall, the majority of the film clips produced intense emotion ratings (overall range 3.9–7.0) and a narrower range of average discreteness scores (overall range .65–.96). Even so, some emotions were more distinct than others. Therefore, on the basis of the model proposed by Lang and colleagues (1999), the clips were also assessed in terms of participants'

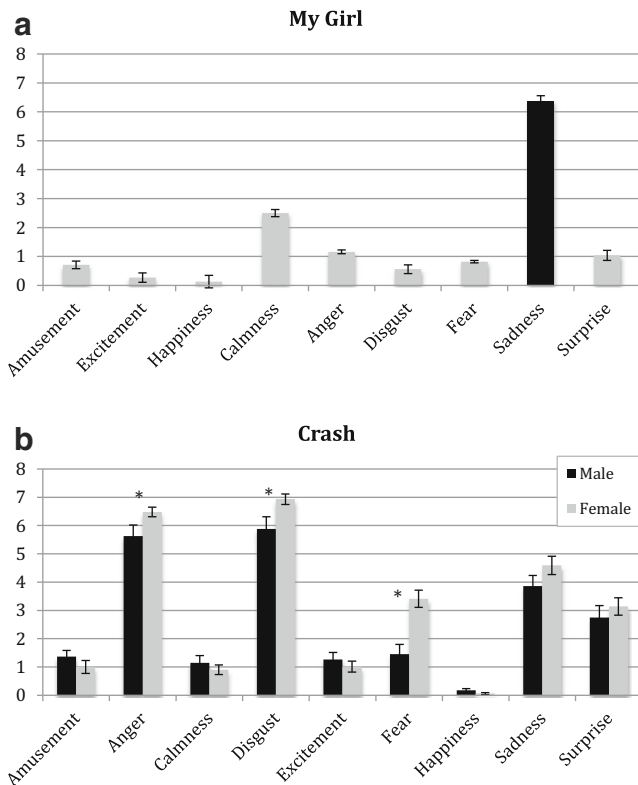
**Table 5** Effects of familiarity on emotions (*M*, *SD*) by movie clips

	Sex	Target Emotions																	
		Amusement		Excitement		Happiness		Calmness		Anger		Disgust		Fear		Sadness		Surprise	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>MTI</i>	N (N = 99)	5.14	2.0	2.48	2.5	3.20	2.3	2.84	2.5	<b>.78</b>	<b>1.4</b>	<b>.55</b>	<b>1.2</b>	.48	1.1	.72	1.2	<b>1.77</b>	<b>1.8</b>
	Y (N = 31)	5.52	1.9	2.39	2.2	2.39	2.2	2.29	2.2	<b>1.74</b>	<b>2.2</b>	<b>1.32</b>	<b>2.4</b>	.77	1.6	1.13	2.0	<b>.77</b>	<b>1.5</b>
<i>HAN</i>	N (N = 19)	<b>5.74</b>	<b>1.8</b>	<b>3.37</b>	<b>1.9</b>	<b>3.42</b>	<b>1.9</b>	3.37	1.9	.21	.5	1.42	2.3	.68	1.5	.21	.7	<b>3.21</b>	<b>2.5</b>
	Y (N = 105)	<b>6.97</b>	<b>1.20</b>	<b>4.57</b>	<b>2.0</b>	<b>4.98</b>	<b>2.1</b>	3.48	2.5	.16	.5	1.41	2.0	.58	1.4	.22	.7	<b>1.74</b>	<b>2.2</b>
<i>300</i>	N (N = 53)	<b>3.00</b>	<b>2.5</b>	<b>3.66</b>	<b>2.4</b>	<b>.64</b>	<b>1.4</b>	1.75	2.4	.98	1.4	1.28	1.9	<b>2.38</b>	<b>2.5</b>	<i>1.15</i>	<i>2.1</i>	1.53	1.9
	Y (N = 69)	<b>4.58</b>	<b>2.4</b>	<b>5.63</b>	<b>2.2</b>	<b>2.24</b>	<b>2.3</b>	2.41	2.4	.95	1.7	.77	1.6	<b>1.27</b>	<b>1.9</b>	<i>.55</i>	<i>1.3</i>	1.12	1.8
<i>TBI</i>	N (N = 70)	<b>4.00</b>	<b>2.4</b>	5.47	1.9	<b>1.40</b>	<b>1.9</b>	1.30	1.8	.57	1.4	.33	1.2	2.14	2.4	.44	1.4	2.48	2.6
	Y (N = 67)	<b>4.96</b>	<b>2.3</b>	5.91	1.5	<b>2.39</b>	<b>2.4</b>	1.73	2.3	.28	.7	.09	.3	1.70	2.0	.27	.7	2.09	2.3
<i>RTT</i>	N (N = 50)	<b>4.22</b>	<b>2.4</b>	5.62	2.4	<b>5.34</b>	<b>2.5</b>	1.86	1.9	<b>.58</b>	<b>1.2</b>	<b>.36</b>	<b>.8</b>	1.22	2.0	.76	1.4	1.64	2.0
	Y (N = 81)	<b>5.22</b>	<b>2.3</b>	6.26	1.9	<b>6.42</b>	<b>1.8</b>	2.02	2.2	<b>.19</b>	<b>.5</b>	<b>.11</b>	<b>.5</b>	1.05	1.8	.70	1.4	1.05	2.0
<i>WALL</i>	N (N = 40)	5.53	1.7	<b>3.18</b>	<b>2.3</b>	<b>5.40</b>	<b>1.9</b>	5.43	2.3	.13	.6	.50	1.4	.28	1.0	.45	1.2	<b>1.13</b>	<b>1.6</b>
	Y (N = 79)	5.81	1.5	<b>4.13</b>	<b>2.3</b>	<b>6.29</b>	<b>1.7</b>	5.95	1.6	.31	1.2	.52	1.5	.17	.8	.91	1.9	<b>.27</b>	<b>.9</b>
<i>PRP</i>	N (N = 86)	<b>2.20</b>	<b>1.9</b>	<b>1.26</b>	<b>1.6</b>	<b>3.97</b>	<b>2.3</b>	<b>5.99</b>	<b>2.0</b>	.15	.6	.19	.8	.27	.8	.43	1.0	.35	.5
	Y (N = 51)	<b>3.06</b>	<b>2.2</b>	<b>2.24</b>	<b>2.2</b>	<b>5.04</b>	<b>2.3</b>	<b>6.69</b>	<b>1.7</b>	.10	.4	.00	.00	.08	.4	.41	1.3	.22	.7
<i>SBF</i>	N (N = 109)	<b>3.12</b>	<b>1.9</b>	<b>1.47</b>	<b>1.6</b>	<b>2.12</b>	<b>2.1</b>	4.88	2.1	.34	1.0	.19	.8	.19	.6	1.30	2.1	1.83	2.2
	Y (N = 8)	<b>4.88</b>	<b>2.5</b>	<b>3.00</b>	<b>2.2</b>	<b>5.00</b>	<b>2.4</b>	5.63	3.0	.50	1.1	.50	1.4	.00	.00	.75	1.7	1.63	3.0
<i>CRA</i>	N (N = 74)	1.19	1.8	1.00	1.6	<b>.04</b>	<b>.2</b>	.99	1.5	<b>5.99</b>	<b>2.1</b>	6.39	2.4	2.60	2.7	<b>3.95</b>	<b>2.6</b>	<b>3.49</b>	<b>2.6</b>
	Y (N = 143)	1.07	1.8	1.31	1.7	<b>.19</b>	<b>.5</b>	.98	1.5	<b>6.51</b>	<b>1.6</b>	6.84	1.5	2.83	2.5	<b>4.98</b>	<b>2.5</b>	<b>2.12</b>	<b>2.6</b>
<i>GTA</i>	N (N = 133)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Y (N = 1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>NLVW</i>	N (N = 95)	4.29	2.5	1.87	2.3	1.26	2.0	1.88	2.3	1.03	1.9	<b>7.21</b>	<b>1.2</b>	.51	1.4	.49	1.2	3.69	2.7
	Y (N = 20)	5.75	2.1	1.95	2.2	2.67	2.5	3.17	3.2	.06	.2	5.90	2.5	.06	.2	.50	1.1	1.50	2.3
<i>TFL</i>	N (N = 130)	<b>1.72</b>	<b>2.3</b>	1.78	2.1	<b>.28</b>	<b>.9</b>	<b>.82</b>	<b>1.5</b>	<b>1.14</b>	<b>2.2</b>	<b>6.51</b>	<b>2.2</b>	3.67	2.7	1.35	2.2	<b>3.46</b>	<b>2.6</b>
	Y (N = 3)	<b>2.33</b>	<b>2.5</b>	1.00	1.0	<b>.00</b>	<b>.0</b>	<b>.00</b>	<b>.00</b>	<b>2.00</b>	<b>3.5</b>	<b>7.00</b>	<b>1.0</b>	3.00	3.6	1.67	2.9	<b>4.33</b>	<b>.6</b>
<i>PSY</i>	N (N = 95)	1.92	2.3	2.35	2.2	.23	.8	1.07	1.6	1.73	2.4	2.98	2.5	<b>4.71</b>	<b>2.5</b>	2.52	2.4	<b>3.96</b>	<b>2.7</b>
	Y (N = 38)	1.89	2.1	2.92	2.6	.50	1.0	.97	1.7	1.16	1.6	2.11	2.4	<b>4.11</b>	<b>2.3</b>	2.00	2.5	<b>2.00</b>	<b>2.3</b>
<i>RING</i>	N (N = 69)	<b>1.60</b>	<b>2.1</b>	<b>2.37</b>	<b>2.6</b>	.21	.7	.74	1.4	.71	1.5	3.38	2.7	<b>5.99</b>	<b>2.0</b>	1.06	1.7	<b>3.57</b>	<b>2.6</b>
	Y (N = 49)	<b>2.71</b>	<b>2.5</b>	<b>3.58</b>	<b>2.3</b>	.44	1.0	1.21	1.9	.90	1.5	2.83	2.6	<b>4.35</b>	<b>2.5</b>	1.21	1.9	<b>2.58</b>	<b>2.4</b>
<i>MYG</i>	N (N = 96)	.67	1.4	.23	.6	.09	.4	2.64	2.4	1.05	1.7	.64	1.4	<i>.68</i>	<i>1.5</i>	<b>6.20</b>	<b>2.0</b>	<b>1.27</b>	<b>2.0</b>
	Y (N = 23)	.91	1.6	1.39	2.2	.27	.8	1.91	1.9	1.64	2.0	.23	.6	<i>1.39</i>	<i>2.2</i>	<b>7.13</b>	<b>1.1</b>	<b>.05</b>	<b>.2</b>
<i>SHW</i>	N (N = 93)	<i>1.08</i>	<i>1.6</i>	.59	.9	.56	1.1	<b>2.41</b>	<b>2.1</b>	1.43	2.0	<b>1.39</b>	<b>2.2</b>	<b>2.62</b>	<b>2.5</b>	6.86	1.5	<b>3.16</b>	<b>2.6</b>
	Y (N = 45)	<i>1.67</i>	<i>2.4</i>	.62	1.3	.49	1.2	<b>3.27</b>	<b>2.4</b>	1.44	2.1	<b>.49</b>	<b>1.1</b>	<b>1.71</b>	<b>2.4</b>	6.91	1.5	<b>.82</b>	<b>1.6</b>
<i>DOA</i>	N (N = 117)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Y (N = 1)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>DEP</i>	N (N = 77)	<b>2.42</b>	<b>2.6</b>	<b>3.62</b>	<b>2.3</b>	<b>.71</b>	<b>1.7</b>	<b>.66</b>	<b>1.4</b>	1.38	2.1	<b>2.44</b>	<b>2.7</b>	<b>3.48</b>	<b>2.6</b>	1.30	2.2	<b>5.97</b>	<b>2.3</b>
	Y (N = 60)	<b>4.05</b>	<b>2.7</b>	<b>5.00</b>	<b>2.2</b>	<b>1.93</b>	<b>2.4</b>	<b>1.70</b>	<b>2.4</b>	1.43	2.2	<b>1.47</b>	<b>2.0</b>	<b>1.88</b>	<b>2.4</b>	1.22	2.1	<b>3.25</b>	<b>3.0</b>

Results for target emotions are shaded. Numbers in bold represent significant ( $p < .05$ ) differences in emotion. Numbers in italics represent trend ( $p > .05-.10$ ) differences in emotion. *N* = have not seen the movie, *Y* = have seen the movie. Row key: *MTI* = *Modern Times*, *HAN* = *The Hangover*, *TBI* = *The Bourne Identity*, *RTT* = *Remember the Titans*, *WALL* = *WALL-E*, *PRP* = *Pride and Prejudice*, *SBF* = *Searching for Bobby Fischer*, *CRA* = *Crash*, *GTA* = *Gentleman's Agreement*, *NLVW* = *National Lampoon's Van Wilder*, *TFL*, *The Fly*, *PSY* = *Psycho*, *RING* = *The Ring*, *MYG* = *My Girl*, *SHW* = *The Shawshank Redemption*, *DEP* = *The Departed*

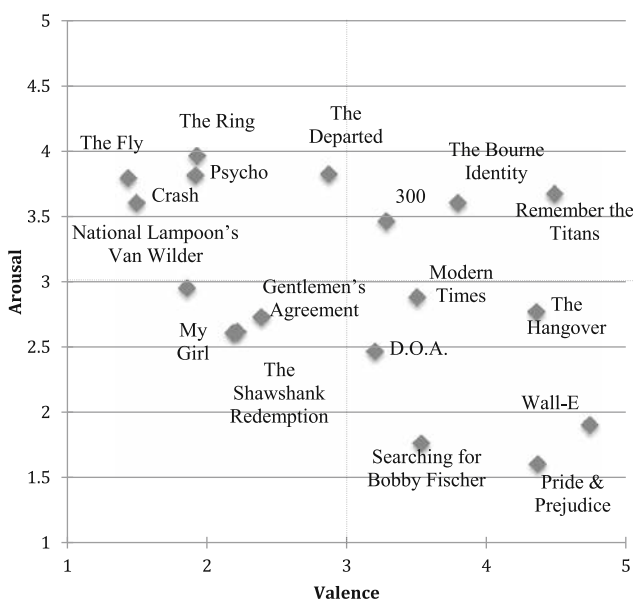
ratings of arousal (relaxed vs. aroused) and valence (unpleasant vs. pleasant). The ratings of the film clips' relationships to one another were examined in a scatterplot (see Fig. 2 and

Table 6), with arousal being represented on the vertical axis and valence being represented on the horizontal axis. The results did resemble those of other studies examining the



**Fig. 1** Mean intensity of emotional ratings (a) for *My Girl* (b) in *Crash* grouped by gender

two-dimensional affective space represented in a scatterplot (e.g., Christie & Friedman, 2004; Eerola & Vuoskoski, 2011), though they varied somewhat from the U-shaped pattern from the IAPS norms (Lang et al., 1999). Of the present set of film clips, *Crash*, *Psycho*, *The Fly*, *The Ring*, and *The Departed* were illustrative of Quadrant I, representing stimuli that were



**Fig. 2** Location of film clips in two-dimensional affective space

**Table 6** Means and standard deviations of affective dimensions by film clips

	Affective Dimensions			
	Pleasure		Arousal	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Modern Times	3.50	1.1	2.88	1.2
The Hangover	4.35	0.8	2.77	1.3
300	3.28	1.1	3.46	1.2
The Bourne Identity	3.79	1.0	3.60	1.1
Remember the Titans	4.48	0.8	3.67	1.2
Wall-E	4.73	0.6	1.91	1.2
Pride and Prejudice	4.36	0.8	1.61	1.1
Searching for Bobby Fischer	3.53	0.9	1.77	0.8
Crash	1.50	0.7	3.60	0.9
Gentleman's Agreement	2.39	0.8	2.73	1.0
National Lampoon's Van Wilder	1.86	1.1	2.95	1.0
The Fly	1.44	0.9	3.79	1.0
Psycho	1.92	0.9	3.81	1.1
The Ring	1.93	1.1	3.96	1.0
My Girl	2.19	0.9	2.61	1.0
The Shawshank Redemption	2.22	1.0	2.62	1.1
D.O.A.	3.20	0.9	2.47	1.1
The Departed	2.87	1.2	3.82	1.0

rated as having low valence and high arousal. Quadrant II, which contains stimuli rated as being pleasant and arousing, was the least representative of the U-shaped pattern from the IAPS (Lang et al., 1999). It consisted of the films *300*, *The Bourne Identity*, *Remember the Titans*, and *The Departed*. *My Girl*, *The Shawshank Redemption*, *National Lampoon's Van Wilder*, and *Gentleman's Agreement* were the films that fell into Quadrant III, which contains stimuli that were rated as being unpleasant and relaxing. Quadrant IV, which includes stimuli rated as having high valence and low arousal, consisted of the films *The Hangover*, *Modern Times*, *Wall-E*, *Pride and Prejudice*, *Searching for Bobby Fischer*, and *D.O.A.*

**Discussion**

This study provides ratings for set of film clips that target elicitation of nine emotions: amusement, anger, calmness, disgust, excitement, fear, happiness, sadness, and surprise. The majority of the clips intensely and discretely elicited target emotions, and those that did not raised questions about the degree to which certain emotions may overlap. The results also suggest that gender, race-ethnicity, and familiarity are important considerations for emotion studies that use film clips.

Scenes depicted in the clips varied in how intensely and discretely the target emotion was elicited. Some clips had both high average intensity scores and high average discreteness scores above .90 (i.e., *The Hangover*, *Pride and Prejudice*, *National Lampoon's Van Wilder*, *My Girl*, and *The Shawshank Redemption*). Moreover, in scenes from *The Hangover* (target: amusement) and *The Shawshank Redemption* (target: sadness), the variability in the discreteness score was low, suggesting that these scenes reliably elicited the target emotion more discretely. For the majority of these film clips, few (if any) nontarget emotions had high intensity ratings.

Moderate discreteness ratings (ranging from .75–.89) suggested that other clips elicited medium-to-high intensity ratings for several emotions (e.g., *Modern Times*, *The Bourne Identity*, *300*, *Remember the Titans*, *Wall-E*, *Searching for Bobby Fischer*, *Crash*, *The Fly*, and *The Ring*). In other words, these clips often produced specific nontarget emotions in concert with the target emotion. For example, *The Bourne Identity* and *300* elicited high levels of excitement, but these ratings overlapped with amusement. Similarly, *Remember the Titans* and *Wall-E* elicited high levels of happiness, but also produced high levels of amusement and excitement. These findings echo Gross and Levenson (1995).

Several film clips produced not only low-to-moderate intensity ratings, but also had low average discreteness scores (i.e., *Gentleman's Agreement*, *Psycho*, *D.O.A.*, and *The Departed*). Two of these film clips (i.e., *D.O.A.* and *The Departed*) were selected to represent the emotion surprise. This emotion was consistently accompanied by nontarget emotions such as amusement and excitement. The patterns of overlapping emotions elicited by some of the films may raise questions about using film clips to elicit certain emotions (e.g., surprise). However, it may instead be the case that certain emotions are not experienced as discretely as others (Barrett, 2006). Similar results were found for surprise in an emotion elicitation study using music, in which it was noted that surprise is often problematic as a target emotion in emotion elicitation research (Eerola & Vuoskoski, 2011).

A two-dimensional affective space for individual film clips offers an alternative way to map emotions that might not be wholly discrete. For example, the film *The Fly* (target: disgust) produced both disgust and fear. This film clip fit into an affective dimension of high arousal and unpleasantness. On the other hand, the film *National Lampoon's Van Wilder* (target: disgust), which produced both disgust and amusement, fit into the dimension of low arousal and unpleasantness. This suggests that although certain emotions may sometimes be labeled similarly, a single label might refer to the activation of several concurrent dimensions of emotional experience (i.e., anger, disgust, surprise, and happiness). Support for this suggestion is provided by theories that rest on a hybrid model of emotions (Barrett, 2006; Christie & Friedman, 2004; Vytal & Hamann, 2010). Importantly, consideration of these

differences may be relevant to researchers who seek to eliminate as much overlap as possible between the emotions being studied. For example, a study examining physiological responses to emotion may not want to use a clip such as *National Lampoon's Van Wilder* because of the dissimilar emotions it produces, whereas a film like *The Fly* may be a better choice.

In addition to creating and validating a new set of stimuli, our study extended prior work by examining potential effects of gender, race–ethnicity, and familiarity. Gender differences in emotion research have been well studied (Barrett, Lane, Sechrest, & Schwartz, 2000; Barrett, Robin, Pietromonaco, & Eyssell, 1998; Fernandez et al., 2012; Glaser, Mendrick, Germain, Lakis, & Lavoie, 2012; Kemp, Silberstein, Armstrong, & Nathan, 2004). Gross and Levenson (1995) found that females reported emotions at a stronger intensity than did males, but the researchers did not address differences based on specific emotions. Our findings suggest that across film clips, females react more strongly to negative emotions than do males, which has been found in both subjective (Gard & Kring, 2007) and physiological (Fernandez et al., 2012; Kemp et al., 2004) measures. Additionally, males react more strongly to positive emotions than do females, and they also tend to attribute positive emotions to negatively valenced films (e.g., finding amusement in *The Ring*). Researchers who wish to elicit emotions in their participants should be aware that these differences are not limited to specific emotions, and that the content of certain scenes in film clips may also produce different effects for males than for females. For example, whereas *Crash* elicited negative responses among all participants, the response for females was more intense. This may have been due to the gender-relevant content in the scene (i.e., sexual assault of a woman by a man). Researchers should be mindful of gender-relevant content when selecting material for stimuli.

Although the results were not entirely consistent for differences in race–ethnicity, to the best of our knowledge, ours is the first film-clip normative study to examine race–ethnicity differences among participants. Overall, it appears that Caucasian participants reacted more strongly to both positive- and negative-valenced clips; however, these findings were not consistent across target emotions. These findings are consistent with research indicating that Caucasian participants express their emotions more openly than is true in some cultures (i.e., Asian American participants; Tsai, Chentsova-Dutton, Freire-Bebeau, & Przymus, 2002). However, our findings on racial–ethnic differences were limited because many of our participants had mixed racial–ethnic backgrounds, and thus comparisons were limited in sample size. On the other hand, the diversity of our sample may generalize better.

We also found that familiarity with a film impacted emotional ratings. Positive reactions to the film were strengthened when participants were familiar with the film clips, perhaps

due to participants' recollections of positive memories of their previous film viewing experience. In contrast, when a negative clip was viewed for the first time, negative emotions were higher. This is also not surprising, since someone who has seen the film before knows what to expect from the film clip, and may therefore not be as affected as someone viewing it for the first time. In light of these findings, when researchers are conducting emotion elicitation studies, it will be important to control for participants' race–ethnicity and familiarity when material is obtained from popular sources.

Although our findings show several factors for researchers to consider when conducting emotion elicitation studies, the elicitation of emotion may be difficult to control. In addition, in our study, the social impact of participants watching and rating the clips in small groups may have affected the ratings, particularly because social context can affect reactions and emotional perceptions without awareness (see Bourgeois & Hess, 2008), although we tried to minimize this by spacing small groups of participants in a large lecture hall. Many other

factors could play a role as well—for instance, at what part in an experimental protocol a participant views a clip for emotion elicitation. Rottenberg and colleagues (2007) provided a detailed, cogent consideration of such contextual issues for researchers to bear in mind.

These results provide standardized ratings for a set of film scenes for emotion research. Such standardized sets of film clips allow for comparability across labs. The selected clips generally elicited specific intense and discrete emotions, which were also captured along dimensions of valence and arousal. The results of this study also underscore the importance of considering factors such as gender, race–ethnicity, and familiarity.

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## Appendices

### Appendix 1

**Table 7** Information on film clips and target emotions

Title	Target Emotion	Year	Categories	Start Time	End Time	Total Time	Description
<i>Planet Earth</i>	Introduction	2006	N/A	N/A	N/A	1:01	Introduction sequence from Planet Earth series. Shows animals and nature to background of exciting music.
<i>Modern Times</i>	Amusement	1936	Black and White	3:01	6:34	2:59	Scene depicts Charlie Chaplin working in a factory. Starts with the sound of an opening bell and the factory starting operation. Comedy ensues when Chaplin makes mistakes on the assembly line. Ends when he resumes work after a bathroom break.
<i>The Hangover</i>	Amusement	2009	New	22:41	28:28	5:47	Starts on a scene of four men giving toasts on a rooftop. The men wake up the next morning to a bizarre scene after a night of heavy drinking. Ends as the men and a baby stand silently in an elevator.
<i>300</i>	Excitement	2006	New	44:16	46:31	2:15	Scene depicts a battle between Persians and Spartans. Starts with an “earthquake” (actually caused by approach of Persian army). The armies approach one another as tension builds. Ends at the beginning of the fight.
<i>The Bourne Identity</i>	Excitement	2002	New	52:18	55:32	3:14	Starts when cops pull up alongside a car. A chase scene through streets of Paris ensues. Ends as the car and a motorcycle are driving up a hill.
<i>Remember the Titans</i>	Happiness	2000	New	1:39:02	1:45:10	6:08	Scene starts with coach saying “listen up, this is our time.” A team wins its final football game and celebrates. End right before the music changes and the voiceover begins.
<i>Wall-E</i>	Happiness	2008	New	58:51	1:02:06	3:15	Starts as a white robot flies forward. Two robots dance in outer space and fall in love as people in the spaceship watch and music plays. Ends when the two robots fly away together (before shot of big spaceship).
<i>Pride and Prejudice</i>	Calmness	2005	New	1:13	2:50	1:37	Starts on scene of sunrise with birds chirping, just after title of movie disappears. A woman walks around a house. Ends at the pause in music just before a conversation begins.
<i>Searching for Bobby Fischer</i>	Calmness	1993		13:12	16:31	3:19	Starts on a scene of woman and children running down a hallway. A man discovers his son knows how to play chess and plays a game with his son. Ends when the boy gets off his chair after the game.
<i>Crash</i>	Anger	2004	New	15:34	22:07	6:33	Scene starts in a diner with a man talking on the phone (conversation starts with word “Look”) (sets up context for later racism). A cop pulls over a black couple and sexually assaults the wife in front of

**Table 7** (continued)

Title	Target Emotion	Year	Categories	Start Time	End Time	Total Time	Description
<i>Gentleman's Agreement</i>	Anger	1947	Black and White	1:25:27	1:28:22	2:55	her husband. Ends with the woman getting back in the car and closing door. A man drives up to and enters a hotel. He tries to get a hotel room, but cannot because he is Jewish. Scene ends when he walks out while people stare at him.
<i>National Lampoon's Van Wilder</i>	Disgust	2002	New	47:22	50:29	3:07	Scene opens on three men in surgical masks holding pastries. Dog semen is inserted into the pastries. A woman delivers pastries to a fraternity, where men eat them. Ends right before the men start to vomit.
<i>The Fly</i>	Disgust	1986		1:25:08	1:26:13	1:05	Cut in on a man on the ground with a gun. A creature (half man half fly) vomits digestive enzymes onto the man. End as fly-man looks at the passed-out body of the other man.
<i>Psycho</i>	Fear	1960	Black and White	43:22	48:30	5:12	A man checks the guestbook of a hotel and walks up to a woman's room. The woman is stabbed to death in the shower. Scene ends with a shot of blood draining into shower drain.
<i>The Ring</i>	Fear	2002	New	1:39:28	1:42:13	2:45	Scene starts on a man working. His TV turns itself on, and eventually a girl crawls out of the TV and pulls her hair out of her face. (The scene is interspersed with shots of a woman trying to reach man.) Ends on static.
<i>My Girl</i>	Sadness	1991		1:23:14	1:25:47	2:33	Starts when a minister walks up to a podium. Scene depicts a young boy's funeral. The boy's friend does not understand her friend's death, tries to give him his glasses so that he'll be able to see, and cries. Scene ends as she runs out of the house.
<i>The Shawshank Redemption</i>	Sadness	1994		1:00:49	1:05:03	4:14	Starts with an old man leaving prison. He narrates how hard he finds it to adjust to the outside world and then hangs himself. Ends on image of him hanging (right before scene starts to change).
<i>D.O.A.</i>	Surprise	1950	Black and White	0:38	2:52	2:14	Scene opens on a man walking toward a building. He walks down a hallway and turns into the homicide division room, saying he is there to report a murder. Scene ends when he says HE was murdered and the man across the table reacts with surprise (along with the music).
<i>The Departed</i>	Surprise	2006	New	2:16:20	2:19:25	3:05	Starts as the camera pans over a scene on a rooftop. Scene shows a confrontation between two men. Ends after DiCaprio has been suddenly shot, on the image of Matt Damon standing in an elevator looking shocked.

## Appendix 2

**Table 8** Order of film clips for each of the three sequences for the two response sets

Order Sequence	Set 1			Set 2		
	1.1	1.2	1.3	2.1	2.2	2.3
1	<i>Searching for Bobby Fischer</i>	<i>300</i>	<i>The Ring</i>	<i>The Fly</i>	<i>Pride and Prejudice</i>	<i>The Departed</i>
2	<i>D.O.A.</i>	<i>The Hangover</i>	<i>The Hangover</i>	<i>Pride and Prejudice</i>	<i>Modern Times</i>	<i>Modern Times</i>
3	<i>The Hangover</i>	<i>Crash</i>	<i>My Girl</i>	<i>Modern Times</i>	<i>Psycho</i>	<i>The Fly</i>
4	<i>The Ring</i>	<i>Searching for Bobby Fischer</i>	<i>D.O.A.</i>	<i>Remember the Titans</i>	<i>Remember the Titans</i>	<i>Pride and Prejudice</i>
5	<i>300</i>	<i>The Ring</i>	<i>WALL-E</i>	<i>Gentleman's Agreement</i>	<i>The Departed</i>	<i>The Shawshank Redemption</i>
6	<i>National Lampoon's Van Wilder</i>	<i>My Girl</i>	<i>Crash</i>	<i>Psycho</i>	<i>Gentleman's Agreement</i>	<i>The Bourne Identity</i>
7	<i>Wall-E</i>	<i>Wall-E</i>	<i>300</i>	<i>The Bourne Identity</i>	<i>The Bourne Identity</i>	<i>Remember the Titans</i>
8	<i>Crash</i>	<i>National Lampoon's Van Wilder</i>	<i>National Lampoon's Van Wilder</i>	<i>The Shawshank Redemption</i>	<i>The Fly</i>	<i>Gentleman's Agreement</i>
9	<i>My Girl</i>	<i>D.O.A.</i>	<i>Searching for Bobby Fischer</i>	<i>The Departed</i>	<i>The Shawshank Redemption</i>	<i>Psycho</i>

Each sequence began with *Planet Earth*

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