2011

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[GETTING EMOTIONAL: MEASURING EFFECTS OF CAMERA ANGLE IN CONTEXT BY MEANS OF EMOTIONS]

Abstract

This study explored the effects of vertical camera angle (high/low) and negative comment (dangerous/incompetent) on characteristics attributed to and emotions elicited by a stimulus photograph. Based on embodiment theory and supported by Frijda's (2005) emotion experience theories, results were acquired through semantic differentials and use of the SAM and the PrEmo. In addition to effects of vertical camera angle and comment, more extreme effects were expected of interactions between the two. On the SAM and the PrEmo, no effects of vertical camera angle and comment were found. On the semantic differentials, no effect of camera angle was found, but the dangerous comment was judged more 'bad', more potent and more active than the incompetent comment. All tools found interaction of camera angle and comment, with the high angle/dangerous comment combination leading to higher scores on the semantic differentials and the SAM. On the PrEmo, the high angle/dangerous comment and the low angle/incompetent comment led to higher scores.

For Ron

and

For my parents

After all these years, the moment is finally here.

GETTING EMOTIONAL: MEASURING EFFECTS OF CAMERA ANGLE IN CONTEXT BY MEANS OF EMOTIONS.

In a world that relies increasingly on media to get messages across, from the integrity of political candidates to the merits of items on sale over the internet, more research into the effect of the way they are presented seems a valuable addition to the existing stock of scientific knowledge. Important aspects of the presentation of something or someone are the stylistic properties: Is someone shown in close-up or from further away? Are they shown from a straight horizontal angle or more from the left or right? And how are they shown from a vertical camera angle? Does the picture look up to them or down on them? But perhaps the more important question is whether these stylistic properties actually influence the opinions on what is shown. Even though many people would give an affirmative answer when asked if they feel stylistic properties—for example vertical camera angle—would influence their judgement, this point seems far from proven.

The effects of vertical camera angle have been researched, with mixed results, but mostly with the images in a neutral or positive context. Research in which the effect of vertical camera angle is studied in which the stimuli were presented in a negative context does not seem to exist. In this study, the stimuli are presented in a negative context by adding a comment to the stimuli photograph that suggests the photograph's subject is either dangerous or incompetent. The experiment's objective is to see whether a high or low vertical camera angle can influence the characteristics attributed to, and the emotions elicited by the stimulus photographs.

The Theory Behind the Effects of Vertical Camera Angle

Directors have used different camera angles in film and propaganda to make their protagonists appear stronger and more powerful, superior and dominant, or to impart weakness (E.g. Livingstone, 1958; Kracauer, 1960). In aesthetic film literature, the notion that the different angles would impart different characteristics was considered valid, even though it was not scientifically validated at the time (Kraft, 1987). The camera angle research that was done in the 1970's (E.G., Tiemens, 1970; Mandell & Shaw, 1973; McCain, Chilberg & Wakshlag, 1977) used the concept of the influence of

camera angles as mentioned by the cinematographers of that time as a starting point for their studies; they did not have a scientifically based cognitive reason for the expected results. With the rise of embodiment theory came a cognitive theory that could provide a basis for any supposed effects of different camera angles.

In embodiment theory, or embodied cognition, it is thought that the human mind processes and reasons through the logic of a body—which is the filter through which the world is experienced— and the peculiarities of our brain. According to Lakeoff and Johnson (1999) our sense of what is real—what they call 'our everyday metaphysics'—is founded, mostly unconsciously, on what our bodies, brains and interactions with the environment provide. They have found that in linguistics, a large amount of sayings and figures of speech are based on spatial relations between objects (and between our bodies and those objects: i.e. the cat is only *in front of* the car from our point of view; had we been standing somewhere else, the cat may have been *behind* the car) or between our bodies and an object. Wilson (2002) mentions how human cognition is likely to have deep roots in sensorimotor-processing, rather than being centralised, abstract, and sharply distinct from peripheral input and output modules. She states that "the mind must be understood in the context of its relationship to a physical body that interacts with the world" (p. 625), which is what embodied cognition boils down to.

With regard to a significant amount of the camera angle research, the relevance of embodied cognition lies in the so-called 'verticality schema'. According to Van Rompay (2008), the verticality schema refers to the human ambition to achieve an erect, upright position, which requires control and power, and the feelings elicited by being higher or lower than someone or something else. The verticality schema also involves the embodied interactions of an individual and environment, when the two share a similar spatial relational structure. This similar spatial relational structure can be the relation between them that involves their orientation on the vertical plane; where the individual is, and whether that what they are interacting with is higher,

lower or on the same level with them. An excellent example from linguistics that illustrates the presence of the verticality schema is that of “looking up to” or “looking down on” someone (Lakeoff and Johnson, 1999). These figures of speech are very much integrated into our language in a figurative way, in admiring or disdaining someone, but at the same time carry strong physical imagery.

The usage of high and low camera angles in either film or photography gives a person a different point of view: in effect it attempts to alter a person’s position on the vertical plane. The high camera angle shoots pictures looking down on an object or person—placing the viewer above the subject of the picture. The low camera angle does the opposite—bringing the viewer below the subject of the picture, looking up to it.

The different positions in relation to a subject are thought to illicit different emotions, and change the characteristics ascribed to a subject (Van Rompay, 2008). Typically, people find they have control over objects and other people if they are literally higher, and the subject is seen as smaller, more harmless, weaker, less competent etc. When people are forced to look up to something or someone it is perceived as bigger, more impressive, dominant, but may also make people feel threatened or vulnerable. Following the logic of the verticality schema, an object that rises higher upward is perceived as more dominant, impressive or proud.

How an object is perceived, what emotions are elicited by it and what characteristics are ascribed to it, seem to differ according to the position on the vertical plane from which it is viewed. Meyers-Levy & Peracchio (1992) mention that objects and people are judged “more positively (i.e. larger, stronger, bolder)” (p.454) when shown from a low angle than when showed from a high angle. In addition to this, they mention that “when the object appeared to be at eye level, viewer’s judgments were between the two extremes” (p. 454). It seems, therefore, that when presented at eye-level, any elicited emotions and ascribed characteristics are moderate. When the viewpoint moves up or down, the elicited emotions and ascribed characteristics grow more extreme. This change can be considered a continuum, from one absolute extreme (i.e. tough) through moderation,

to the other absolute extreme (i.e. fragile). The point from which the person or object is viewed—what Van Rompay (2008) calls "an individual's bodily orientation in the vertical plane" (p. 26)—can obviously also be seen as a continuum between the extreme low and the extreme high. As can be seen in Figure 1, the combining of the continuum of characteristics (and elicited emotions) and the location of the viewer along the continuum of the vertical plane leads to a comprehensive summary of what to expect at what viewing angle (Maathuis, 2010). The most extreme form of the characteristics are found at the highest and lowest viewing positions, which will grow progressively less extreme as the viewing position nears the eye-level position.

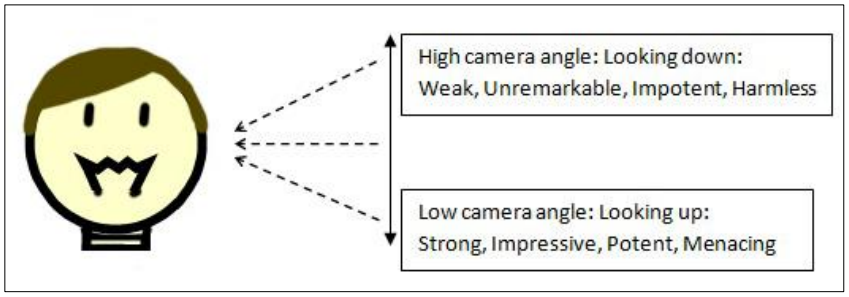


Figure 1 - The Continuum of Vertical Camera Angle and Characteristics

Based on the theory of embodiment, it is expected that people or objects portrayed from a low camera angle, with viewers looking up to them, will be ascribed characteristics that have to do with being powerful or potent, as well as (physically) impressive or awesome. Emotions elicited by them will match the ascribed characteristics but may still be positive or negative: awe, fascination, desire but also fear or feeling dominated. People or objects portrayed from a high camera angle, with people looking down on them, will be on the other end of this spectrum. They will be ascribed characteristics that are the opposite of those above, characteristics that imply fragility and helplessness, but also innocence. Elicited emotions, again, will match the characteristics but may be positive or negative. Endearment, sentimentality but also boredom or disgust are examples.

But, although the theory of embodiment and vertical camera angles appears sound, results matching the theory haven't always been found in the past.

Past Camera Angle Research

Research on the effects of camera angles has produced mixed results in the past. The oldest research into the effect of camera angles, inspired by claims of “film directors, cinematographers, photographers, screen writers, and philosophers” (Kraft, 1987, p291), works with film as stimuli (Tiemens, 1970; Mandell & Shaw, 1973). Tiemens (1970) found that a low camera angle had a positive effect on authority, communicative skills and knowledge in newsreaders, but not if the newsreaders brought unpopular news. Mandell & Shaw (1973) combined camera angle with activity/movement in a short news-feature film that was combined with information about the person in the clip. They did not find any effects of camera angle on its own, but when minimal activity/movement was used as a co-variable, there was a positive effect for the low camera angle on the measures potency and activity. McCain, Chilberg & Wakshlag (1977) found effects of vertical camera angle as well, although for them, this consisted of a positive effect of the high camera angle on newscaster competence, composure, sociability and character. They argued that the lack of dominance that would be imparted by a low camera angle actually benefited the dependent measures they used. These were different from the dependent measures used by Tiemens (1970) and Mandell & Shaw (1973), hence the apparent contradiction in results. Other research focussed on photographs (Kraft, 1987; Sevenants & d'Ydewalle, 2006; Meyers-Levy & Peracchio, 1992; Peracchio & Meyers-Levy, 2005; Maathuis, 2010); some with people, others with objects. Kraft (1987) found a strong and predictable positive effect of camera angle on physical- and personality characteristics of the depicted people, as well as on recall of the (simple) story the people featured in. A similar positive effect was more recently found by Sevenants & d'Ydewalle (2006).

Meyers-Levy en Peracchio (Meyers-Levy & Peracchio, 1992; Peracchio & Meyers-Levy, 2005) continued the camera angle research with objects instead of people and combined camera angles with cognitive processing theories. They found that medium processing in combination with the cueing of the participants with desired characteristics would lead to effects of camera angle.

Depending on the cues provided, it was the high or the low angle that would lead to more positive evaluations. A study from Maathuis (2010) in which objects were accompanied by a positive or negative review found no results of camera angle. However, the reviews and the assessment of the objects were related.

It appears that, for both people and objects, the effects of camera angle are largest when there is no accompanying text, when there is little accompanying text or when the accompanying text has little meaning. As soon as there is actual message, more often than not, it will be processed more extensively than the person or object that is portrayed. However, there are very few cases where it is just a person or an object that is shown—they always come within a context: an explanation or a story.

The Photograph in Context

It's when the photographs are accompanied by text—put into context—that the effect of camera angle is no longer a sure thing. In their 1992 and 2005 studies, Meyers-Levy and Peracchio (1992, 2005) presented photographs of products that were accompanied by ad-like text. They added a 'need for cognition' variable in the 1992 study, and found that effects of camera angle were only found when the 'need for cognition' was low. They suggested different ways of processing were at work—when the 'need for cognition' was low, the photographs took preference over the text in processing, and in addition were processed by means of heuristics. When the 'need for cognition' was high, the text accompanying the photographs—offering information on the product shown—appeared dominant over the photograph, and the information was processed more systematically—thus bypassing the information imparted by the camera angle. In the 2005 study, something similar happened: participants were cued to think about the product later used as stimulus, thereby presumably increasing how extensively the information was processed. It appeared that when the processing was extensive, participants were more likely to ignore the stylistic information in favour of the information offered in the ad copy. Maathuis (2010) also found that the text accompanying the

photographs was processed more extensively than the photographs. Indeed, when looking at the results, the accompanying text—styled as a positive or a negative review of the object in the photograph—was favoured to the exclusion of the photographs.

Therefore, it is expected that the context in which the stimulus photograph is presented will also influence the evaluation of people or objects on a photograph—regardless of whether this is because the context influences the mood, which then influences the evaluation, or whether information from the context is processed more thoroughly than the stylistic information in the photograph. Prior vertical camera angle research had always presented stimuli in a context varied from neutral to positive (e.g. in an ad). Typically, if effects of camera angle were found, these then consisted of more positive evaluations when the stimuli were presented from a low camera angle. There is, however, also the possibility that the low camera angle would elicit stronger negative emotions. For instance, a person that it looked up to by means of a low camera angle could induce fear, make the viewer feel dominated or make the person seem more menacing. According to Frijda (2005), all emotional reactions and perceived felt qualities are the conscious outcomes of mainly unconscious appraisal processes.

The unconscious appraisal processes that lead to whatever people feel about something or someone, to their labels and attributed characteristics and to the names they give their body's physiological state, are set into the two-factor theory of emotions by Schachter & Singer (1962). This theory assumes two factors when it comes to experiencing emotions. The first factor represents the awareness of the situation or the body's physiological state, the second factor the appraisal processes that attribute meaning to the situation. (See Figure 2) Appraisal may be defined as the evaluation of a situation, event or object with respect to goals and well-being. Dependent on the outcome of the appraisal processes, the same physiological state may be labelled as fear or

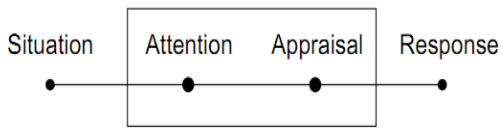


Figure 2 – Visual Representation of the Two-factor Theory of Emotions (Schachter & Singer, 1962).

exhilaration, or the same person as awesome or frightening. It is the appraisal that decides which way it goes.

An important modifier in the appraisal seems to be the mood people are in. In general, mood seems to have an effect on cognitive activities. Martin & Clore (2001) mention three main findings when it comes to the influence of mood. First, being in a positive or negative mood leads to mood-congruent—the selective processing of pleasant information under a good mood and unpleasant information under a negative mood in memory and social judgement tasks (Isen, 1984) —recall and evaluation. Second, being in a negative mood will lead to more systematic information processing compared to being in a positive mood. Third, being in a positive mood will lead to more flexibility and creativity compared to being in a negative mood. (Verleur, 2008) Multiple studies proved that priming with positive affect can lead to more positive evaluations of stimuli (e.g. Clore 1992). In other words, the mood people are in can influence their choices.

Considering the importance of the appraisal process for the response outcome according to theory, and experimental results of how subliminally priming of positive affect can lead to more positive evaluations of stimuli presented subsequently (e.g., Clore, 1992), it would be interesting to see what would happen if the context were not positive, but negative. By priming the direction of the affect by means of the context, it ought to be possible to nudge the appraisal process to the negative scope of ascribed characteristics and elicited emotions of the different angles, instead of the positive. In addition, if the context were not only be used as a prime for the negative, but would be a message that imparted the same characteristics as either a low or a high camera angle, it would combine the effects of both the vertical camera angle and the context. With the context priming the affect, and the camera angle and the context imparting the same message, the ascribed characteristics and elicited emotions ought to be more intense, more extreme than with the vertical camera angle or context alone would do.

The context would have to paint a picture that, in its totality, would impart the same characteristics and elicit the same emotions as the camera angles. As mentioned above, this would

be characteristics that have to do with being powerful or potent as well as (physically) impressive or awesome for the low angle, and characteristics that imply fragility and helplessness for the high angle. At the same time, the negative affect should still be present. A description that introduced the person on the photograph as dangerous—implying both potency and impressiveness—would correspond with the low camera angle. Introducing someone as incompetent—weak but also harmless—would induce characteristics that coincide with those imparted by a high camera angle. When camera angle and context match, there should be an interaction between the two, enhancing and intensifying attributed characteristics and elicited emotions. Even so, the comment should not be too extensive. Maathuis (2010) advised presenting stimuli as a newspaper photograph—a photograph with brief caption in small print. This format is well suited for presentation of both a photograph and a (negative) comment, and will be adopted for this study.

Measuring Different Factors of Emotion

When using the embodiment theory to explain and predict effects of vertical camera angle, it quickly becomes clear that what has to be measured to find effects of vertical camera angle, context and the interaction between the two, consists of both ascribed characteristics and elicited emotions.

Frijda (2005) offers a theory of emotion that has two directions, depending on where the attention of the person who experiences it is. These two directions, which Frijda calls world-focus and self-focus (p.480), can be used to explain the ascribed characteristics and elicited emotions. In the world-focus and self-focus, the focus of attention is, respectively, either on the world or turned inward. With the attention on the world around oneself, emotion experience can have the form of affectively meaningful perception of the world: of an object, an event, or the external world as a whole. The experience is of a "situational meaning structure" (Frijda, 1986), and different meaning structures correspond to different emotions. These situational meaning structures are made up out of perceived felt qualities—those qualities that lead people to label objects or other people with differently loaded adjectives or identify events as threats or invitations, as confusing

or exhilarating. When the attention is turned inward, the attention goes towards the responses, as perceived from the inside: the sensations caused by the body's physiological state that need to be defined. Although the experience is very different in world-focus and in self-focus, awareness of the world and of the self are closely tied together. The self is not focused on in world-focus, but it is still present—when the focus is on the self, the world is nevertheless present. For example, stretching a finger is different from pointing a finger, because the pointing is led by the orientation on a point in space. In the world-focus, one's location is the reference point against which an object or event is close by or far away. Something is seen as looming because it towers over oneself (Frijda, 2005). While the experiences are quite different, world-focus and self-focus are inextricably tied together. The differences between the world-focus and the self-focus seem to be the same differences as seen earlier with the effects of the verticality schema, the elicited emotions and the attributed characteristics. The first is the reaction to stimuli when attention is turned inwards, the second the reaction to stimuli when attention is turned outwards. Of course, both emotion experiences may be elicited by the same stimulus—another reason why world-focus and self-focus can be tied together and probably even correlate. It is hard to imagine experiencing something purely from a world-focus, or solely from a self-focus. The two are likely tied together at the appraisal level—appraising an event or person from a world-focus as a threat or an invitation, and then inferring how this translates to the emotion experience with a self-focus. Something that is perceived as scary, leads to the person seeing it feeling threatened. When there is a single stimuli, the two foci are connected.

Descriptions of emotion experiences in self-reports consist for a large part of descriptions of the meanings of objects or events. When these descriptions are closely looked at, they appear to represent several kinds of information with regard to how the object, person or situation has been appraised (Frijda, 2005). The kinds of information that appear most often are the event's or object's affective valence, the degree of benefit or harm it may do, and what it prevents or allows one to do

to deal with it. These three elements also appeared in the research of Osgood, Succi en Tannenbaum (1957), and they labelled the scales on which these elements were present in the perceived felt qualities as “Evaluation”, “Potency” and “Activity”. Mehrabian (1970) found the similar dimensions underlying the judgements of facial expressions, hand and body movements and postural positions. Mehrabian and Russel (1974; Russel, 1980) again found the same three factors. According to the data of Osgood et al. (1957), the three factors accounted for 50% of the variance in judgements, which was supported by the other studies. That the same three factors can account for significant variance across such a wide spectrum of stimuli suggests they are an elementary part in organizing human experience, both semantic and affective (Bradley & Lang, 1994).

A number of measuring tools uses the three factors mentioned above, although not always by the same name. What can be considered as the mother of all these tools are the semantic differentials developed by Osgood et al. (1957), who let participants rate a wide variety of stimuli by means of bi-polar word pairs. After factor analysing the results, the three factors Evaluation, Potency and Activity emerged—even when the stimuli were very different. According to Osgood et al. (1957), any set of bi-polar word pairs can be used, adjusting them to and making them best suited for the to-be-rated object or event. Mehrabian and Russel (1974) also developed a semantic differential scale, although this scale was not used to rate an object or event, but rather to rate the feelings elicited by these. In this semantic differential scale, the dimensions of pleasure, dominance and arousal emerged. Based on this scale, Bradley and Lang (1994) developed a visual scale to measure the same dimensions. This visual scale, the Self-Assessment Manikin or SAM, was developed to make it easier and less time consuming to rate, as the SAM contains only three scales. The tool developed by Mehrabian and Russel (1974) contained 18 scales. In addition, the visual SAM scales are not dependent on language. This makes them usable in both non-English speaking cultures and populations that are not linguistically sophisticated, something that is not possible with the verbal version.

The SAM and the stimuli-rating semantic differentials by Osgood et al. (1957) seem effective tools to use in the present study. Both tools measure factors of emotion, one those of the elicited emotions, the other those of the attributed characteristics. Adding a tool that measures distinct emotions would complete a set of measurement tools that is capable of measuring emotions in a variety of ways, ultimately giving a complete picture of the emotion experience as elicited by a stimulus. A measurement tool that measures such distinct emotions is the Product Emotion Measurement Tool or PrEmo (Desmet, 2003; SusaGroup, 2007). The PrEmo was developed to measure emotions elicited by objects, a measure increasingly popular in product design. A set of 12 cartoon characters depicting emotions by means of facial and bodily expressions and sound is used to allow the rating of emotions. Both the negative and the positive sides of the emotional spectrum are represented, each with 6 characters. Although designed to measure product emotion—as the name reveals—the tool is expected to add an extra dimension to the results, as it measures both subtle (i.e. low intensity) and mixed emotions (i.e. more than one emotion experienced simultaneously) (Desmet, 2003) without the need to specifically name the emotion. It is rather a different way of measurement than the 3-factor measurement of the semantic differentials or the SAM, even though the emotions can still be divided into emotions with positive and negative valence, and in the development process the emotions were actually rated on an activity factor as well (Desmet, 2003).

Embodied Cognition's verticality schema, Frijda's (2005) theory of world-focus and self-focus in emotion supply a theoretical foundation for those effects of camera angle that have been utilised by film directors since the beginning of the industry. The semantic differentials, the SAM and the PrEmo provide the tools to measure those emotions, making it possible to formulate the expectations for this experiment. Hypotheses for the results on the semantic differentials and the SAM can, based on the verticality schema, be formulated as follows:

H1: A low vertical camera angle will result in high Potency (semantic differentials) and low feelings of dominance (SAM). A high vertical camera angle will result in low potency (semantic differentials) and high feelings of dominance (SAM).

H2: A "dangerous" comment will result in a negative evaluation and high potency (semantic differentials) and negative valence and low feelings of dominance (SAM). An "incompetent" comment will result in a negative evaluation and low potency (semantic differentials) and negative valence and high feelings of dominance (SAM).

H3: "Matching" angles and comments (low angle + dangerous comment, high angle + incompetent comment) will interact and result in more extreme scores.

However, formulating a definite hypothesis with regard to the PrEmo emotions is difficult—the PrEmo could be considered more of an exploratory than an explanatory tool. With regard to the PrEmo, a research question is formulated:

RQ: What distinct emotions are effected by the different vertical camera angles or comments and do these differ significantly for the different angles and comments?

Adding to the mix

As mentioned in Larsen & Buss (2002), a person's personality influences how they act, how they view themselves, how they feel and how they react to their environment. John & Srivastava (1999) refer in their article on the Big Five that the different factors of personality have been proven predictors of a large scope of behaviours. It can be said that people with different personalities react differently to situations and as a result make different choices. Larsen & Buss (2002) capture this in the following equation: B = f(P * S), which can be translated as the statement that behaviour B is a function of the interaction between personality P and situation S. Considering how the photographs from different vertical camera angles and the different accompanying comments used in this study

want to 'mimic' placing people in different situations and see their reaction, it seems interesting to have a look at the influence of personality factors, too.

RQ2: Will people with different personalities have significantly different scores on the various measurement tools?

Recapitulating, it is expected that both vertical camera angle and comment will have an effect on the scores on the semantic differentials, the SAM and the PrEmo. The combination of camera angle and comment is expected to intensify these effects. In other studies concerning the effects of vertical camera angle, the angle on its own was generally expected to elicit a more positive reaction, but the negative context in which the photographs are presented in this study does not allow that.

Pre-test

The design of the experiment required the use of several people to model for the photographs. This led to the danger of variations in the results that were not based on the independent variables of camera angle and comment, but on the person in the photograph. It was thought that using two people of the same gender and age, looking fairly non-distinct, would minimise the possibility that results were based on the looks of the person. In an effort to find a photograph that would be sufficiently non-distinct, a pre-test was devised and executed. Eye-level photographs of four young men were used in the pre-test to determine the least extreme of the four, and semantic differentials were used to rate the photographs. Ideally, there would be two photographs that had scores on each 3 factors that were close to the scale-mid, and did not significantly differ from each other.

Design

Participants were shown 4 eye-level photographs of four different young men. Every participant rated each photograph by means of 15 semantic differentials, the same that are used in the main study.

Photographs

Four young men were photographed with a camera set-up that allowed 3 cameras to make near-simultaneous shots from 3 different angles (See Appendix A, figure 1). The eye-level photographs were used in the pre-test to determine the least extreme of the 4 men.

Figure 3 – Eye-level photographs used in the pre-test

Participants

The pre-test had 21 participants (16 female, 5 male, mean age= 23.6 SD=3.7). All were (PhD) students from the University of Twente and were drafted at a club evening of the student horse riding club. They received no compensation for participating other than a kind smile and thanks.

Results.

The results on the semantic differentials for each of the photographs were subdivided into scores for Evaluation, Potency and Activity. Means on each factor for every photograph and pairwise comparisons can be found in Appendix A, table 1. Unfortunately, there were no two photographs that clearly met the ideal situation of being close to the scale-mid and not significantly different from each other. To still be able to choose the two most non-distinct photographs, all photographs were rated 1-4 according to their scores in each of

Table 1 - Comparitive ranks on semantic differentals for photographs in the pre-test

Factor Means and Relative Ranks for Pre-Test Photographs

Factor	Photograph	Mean	Std. Error	Rank
Potency	1	1,741	0,491	4
	2	1,333	0,406	3*
	3	0,852	0,439	2*
	4	0,037	0,516	1
Evaluation	1	0,222	0,401	2*
	2	0,444	0,499	3*
	3	-1,074	0,446	1
	4	1,704	0,509	4
Activity	1	-1,148	0,706	4
	2	-2,926	0,539	1
	3	-1,667	0,562	3*
	4	-2,815	0,611	2*

* Least extreme ranks

the Evaluation, Potency and Activity factors. Photographs 2 and 3 both scored a rank 2 or 3 on two out of three factors, making them the least extreme of the four photographs. These two photographs were used in the main study.

Methods – Main Study

Design.

A 2x2 within subjects design was used, with camera angle (high, low) and message (incompetent, dangerous) being the independent variables. Dependent variables were the scores on the Self Assessment Manikin (SAM), the PrEmo and the semantic differentials. As control variables, personality scores as measure by the TIPI, general mood measurement scores and various demographic data were gathered.

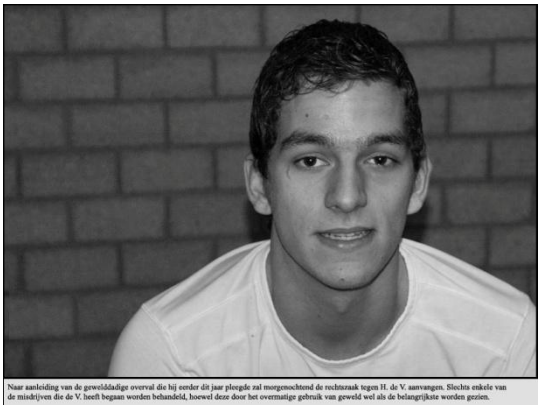
Participants.

In the experiment 159 people participated. Of these, a fair number produced incomplete datasets. After the removal of the incomplete or otherwise unusable datasets, 121 participants with complete sets remained (the 159 participants against 121 complete sets figure is slightly distorted: any number of participants that started the experiment but were unable to complete it, thus resulting in an incomplete set, may have come back at a later time to complete the experiment; because it was not possible to continue an earlier session, these were saved as different sets). Of these, 23 were male and 98 were female. The average age was 20.8 (SD= 2.2). Of the 121 participants, 117 were students drafted through the university's participant pool, and received course credits for participating. The remaining participants were drafted through email and messages on various social networks. All were Dutch or spoke Dutch as a second language.

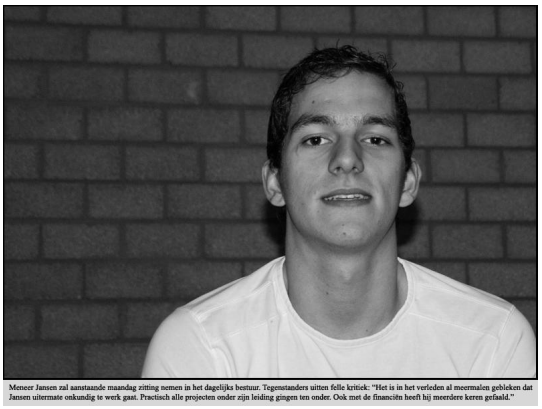
Materials.

Photographs & Comments.

Photographs of two different people—both male, in their early twenties—each from 2 different camera angles (high, low) were used (Figures 4-7 or See Appendix B, figures 1-4). High and low camera angles differed by 18 degrees from the eye level position. This angle makes for a strong camera angle (Kepplinger, 1987) and was chosen to be sure that the effect of camera angles was clearly visible. From both the high and the low angle, the men were looking at the camera. Although staring or a direct gaze is related to dominance and gaze aversion to submission (Mignault & Chaudhuri, 2003) the direct gaze was chosen over the people focussing on something on eye-level and thus having an averted gaze in the high and low angle photographs. Since real instead of digitalized people were used, the "eyes closed" option that is used in studies where digitalized people are rated (Mignault & Chaudhuri, 2003; Wieneman, 2009) was not feasible in this study. In Maathuis (2010) it was thought that reducing the amount of non-stylistic information available would help make the camera angle the main focus of attention. Presenting the photographs in a way that allowed for minimal text but still focussed mainly on the photograph was suggested for future research. Therefore, all photographs were given a thick black border and below each photograph a small text was printed, making the whole resemble a newspaper clipping. The content of the texts accompanying the photographs was similar to those texts in a newspaper



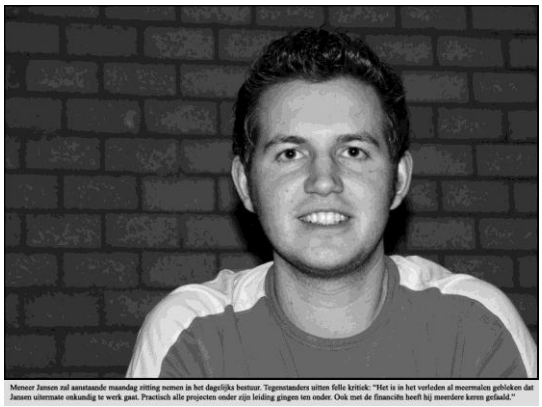
Naar aanleiding van de gewelddadige overval die bij eerder dit jaar pleegde zal morgenochtend de rechtszaak tegen H. de V. aanvangen. Slechts enkele van de misdrijven die de V. heeft begaan worden behandeld, hoewel deze door het overmatige gebruik van geweld wel als de belangrijkste worden gezien.

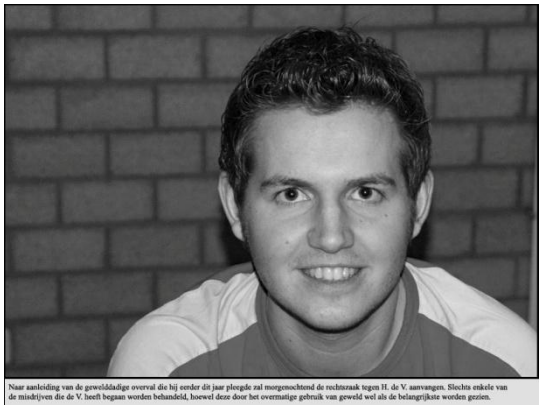


Meneer Jansen zal aanstaande maandag zitting nemen in het dagelijks bestuur. Tegenstanders uitten felle kritiek: "Het is in het verleden al meermalen gebleken dat Jansen uitermate onkundig te werk gaat. Practisch alle projecten onder zijn leiding gingen ten onder. Ook met de financiën heeft hij meerdere keren gefaald."

Figures 4&5 - High and low angle photographs of person 1

or magazine (See Appendix B, table 1). The comments were either 'Dangerous' or 'Incompetent'. Both were phrased in a descriptive, non-involved way.


Meneer Jansen zal aanstaande maandag zitting nemen in het dagelijks bestuur. Tegenstanders uitten felle kritiek: "Het is in het verleden al meermalen gebleken dat Jansen uitermate onkundig te werk gaat. Practisch alle projecten onder zijn leiding gingen ten onder. Ook met de financiën heeft hij meerdere keren gefaald."


Naar aanleiding van de gewelddadige overval die hij eerder dit jaar pleegde zal morgenochtend de rechtszaak tegen H. de V. aanvangen. Slechts enkele van de misdrijven die de V. heeft begaan worden behandeld, hoewel deze door het overmatige gebruik van geweld wel als de belangrijkste worden gezien.

Figures 6&7 - High and low angle photographs of person 2

Semantic Differentials.

To evaluate the stimuli, a set of semantic differentials, adapted from Osgood's Semantic Differentials (Osgood, Suci & Tannenbaum, 1957) was used. Osgood's semantic differentials were developed to measure the connotative meaning of concepts. The semantic differentials can be reduced to three main factors: Evaluation (i.e. good-bad), Potency (i.e. strong-weak) and Activity (i.e. active-passive). The Evaluation, Potency and Activity factors combined allow for a detailed summary of perceived character. Using a 7-point scale, participants scored where they thought the stimuli best fitted between two bi-polar descriptive adjectives. Dutch translations of 15 sets of adjectives were used, 5 for each of the three factors. All 15 were original word pairs used by Osgood (See Appendix B, table 2 for the exact pairs used and their translation).

Self-Assessment Manikin (SAM).

The Self-Assessment Manikin (SAM) (Bradley & Lang, 1994) was used to measure dimensions of emotions elicited by the photographs. The SAM is a picture-oriented instrument designed to directly assess the dimensions of valence, arousal and dominance associated with the response to an object or event. There are five figures in each of the three scales, ranging from one end of the continuum to another (See Appendix B, figures 5-7).

PrEmo.

The PrEmo or Product Emotion Measurement instrument (Desmet, 2003; SusaGroup, 2007) consists of a set of 12 emotions, each of which is shown by an animated cartoon character by means

of dynamic facial, bodily, and vocal expression. After first seeing the stimulus—in this experiment a photograph of an object with accompanying text—participants have to rate for each of the 12 emotions shown in how far they feel that emotion was elicited by the stimulus, on a scale of 0-4 (See Appendix B, figure 8). Usage of the PrEmo was graciously permitted by the SusaGroup.

Ten Item Personality Inventory (TIPI).

The Ten Item Personality Inventory (TIPI) (Gosling, Renfrow & Swann, 2003) was used as a measure of personality of the participants. The TIPI is designed to measure a range of personality factors, as defined by the Five Factor Theory of Personality. The Big Five framework suggests that most individual differences in human personality can be classified into five broad, empirically derived domains. Again, Dutch translations of the originals were used (See Appendix B, table 3).

Procedure.

Participants entered the experiment through a web link or URL. First, they encountered a screen welcoming them to the experiment and saying the experiment is about the way people in photographs are rated by viewers. Next, they had to enter some demographical information and fill out the TIPI. Subsequently, they got information on how to use the SAM and semantic differential scales used in the experiment. After that, they used the SAM to rate how they felt seeing a photograph with a person on it, accompanied by a snippet of text. Below the photograph they were asked whether or not they knew the person depicted. After rating the photograph by using the SAM, participants rated the same photograph by means of the semantic differentials. This SAM – semantic differentials rating was then repeated for a different photograph. In the first photograph, the person was randomly shown from a high or low camera angle, and randomly accompanied by a dangerous-negative or incompetent-negative text. The second photograph was then chosen to be both a different angle and a different text from the first photograph. After filling out the SAM and using the semantic differentials to rate the two photographs, participants filled out a mood measurement, in which they had to rate their current mood between 1 and 10. After that they again saw the two

photographs, this time needing to rate them using the PrEmo. After rating both photographs, the participants were heartily thanked for participating in the experiment and making their contribution to science.

Results

Of the 121 complete sets of data, all consisting of results for two photographs, results for 6 photographs had to be excluded from analysis because participants indicated they knew the person in the stimulus photograph. This resulted in 236 scored photographs.

Because the various hypotheses assume scores that are 'high' or 'low', defining the highs and lows is necessary. Independent of the actual scores attainable with the different tools, a good definition for 'high' and 'low' seems any scores that fall in the highest and lowest quarter of the tool's scale, respectively.

With regard to the covariates, all analyses were executed with the same co-variates. These were the person on photograph, general mood score and the five personality factors 'extraversion', 'agreeableness', 'conscientiousness', 'emotional stability' and 'openness to new experiences', as obtained from the TIPI results.

Reliability Analysis

A reliability analysis of the items making up the scales for the three factors showed that the reliability of the semantic differentials was not very satisfactory: while the alpha reliability for the Evaluation factor was .799, the alpha reliability for the Potency and Activity factors were .526 and .473, respectively. The TIPI scales used did not prove to be very reliable either. Alpha reliability was .337 for extraversion, .524 for agreeableness, .622 for conscientiousness, .459 for emotional stability and .406 for openness to experiences.

Table 2 - 'High' and 'low' score ranges for all tools

"Highs" and "Lows" for the different scales		
	Low	High
SAM	1-3	7-9
Semantic Differentials	1-2.5	5.5-7
PrEmo	0-1	3-4

Camera Angle

Hypothesis 1 assumed effects of vertical camera angle on the scores of the semantic differentials and the SAM, specifically the potency factor of the semantic differentials and dominance factor of the SAM. A one-way MANCOVA was executed to analyse the data relevant to the hypothesis (See Appendix C, tables 3 and 4). With co-variates co-varied out, the analysis showed no significant effects for camera angle on either variable. In addition, for the low angle, mean score on the semantic differential potency factor was 4.19—a high potency score was expected, 'high' being defined as between 5.5 and 7. On the SAM dominance scale, the mean score was 5.46—low dominance was expected, 'low' being defined as between 1 and 3. For the high angle, mean score on the semantic differential potency factor was 4.35—again, a 'high' score of between 5.5 and 7 was expected—and the mean SAM dominance score was 5.35—a "high" score of between 7 and 9 was expected (See Appendix C, tables 1 and 2). Other factors of the semantic differentials and the SAM also lacked significant effects from camera angle. The totality of these results are falsify hypothesis 1.

Comment

Hypothesis 2 assumed effects of the comment on the scores of the semantic differentials and the SAM, specifically the potency factor of the semantic differentials and the valence and dominance factors of the SAM. A one-way MANCOVA was executed to analyse the relevant data (See Appendix C, tables 3 and 4). With the co-variates co-varied out, the analysis showed that no significant effects were obtained for comment on the SAM factors. It did show significant effects on the semantic differentials, for evaluation and potency as well as activity (Evaluation: $F=(1,225)= 9.555$, $p= .002$, $1-\beta= .868$**;** Potency: $F(1,225)= 4.087$, $p= .044$, $1-\beta= .521$; Activity: $F(1,221)= 22.320$, $p< .000$, $1-\beta= .997$). An exploration of the direction of the effects of comment was done with a post-hoc Bonferroni test (See Appendix C, table 5). The 'dangerous' comment was rated as more 'bad' ($p= .002$), more potent ($p= .044$) and more active ($p< .000$) than the 'incompetent' comment. However, although there was an effect for comment and the direction of the effect does support the intent of the comments. The

dangerous comment was more 'bad' and more potent than the incompetent comment—none of the factor means fell in the expected 'high' or 'low' areas. Therefore, hypothesis 2 is only partly confirmed.

Interaction of Angle and Comment

An interaction effect of comment and angle was assumed in Hypothesis 3. A one-way MANCOVA was executed to analyse the relevant data. On the semantic differentials, a significant effect was found for the interaction between camera angle and comment, but only on the activity factor (Evaluation: $F(1,225)= 0.634$, $p> .05$, $1-\beta= .125$; Potency: $F(1,225)= 0.785$, $p> .05$, $1-\beta= .143$; Activity: $F(1,225)= 8.458$, $p= .004$, $1-\beta= .825$). Here, the high angle/dangerous comment combination was scored significantly higher than the other angle/comment combinations (See figures 11-13). For the SAM factors, a significant effect was found only on the arousal factor (Valence: $F(1,225)= .030$, $p> .05$, $1-\beta= .053$; Arousal: $F(1,225)= 4.892$, $p= .028$, $1-\beta= .596$; Dominance: $F(1,225)= 1.351$, $p> .05$, $1-\beta= .212$;). Again, it was the high angle/dangerous comment combination that was scored significantly higher than the other angle/comment combinations (See figures 8-10).

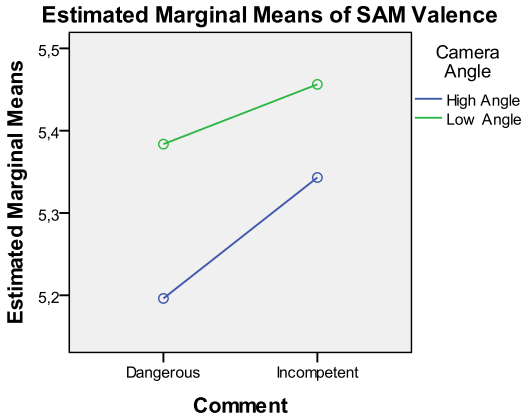
PrEmo

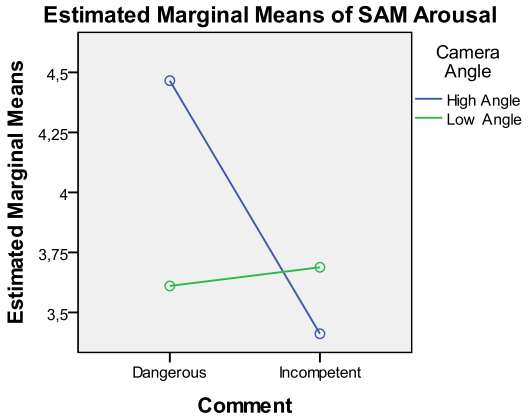
The first research question concerned the PrEmo—what emotions would be effected by the different camera angles and comments. A one-way MANCOVA was executed to analyse the data to see general effects of camera angle and comment. With the co-variates co-varied out, the analysis showed no significant effect for camera angle or comment, but did indicate an interaction effect between camera angle and comment. This effect manifested mainly in the positive emotions: significant effects were obtained for the positive emotions desire ($F(1,221)= 10.539$, $p< .001$, $1-\beta= .898$), satisfaction ($F(1,221)= 9.344$, $p= 0.003$, $1-\beta= .861$), pride ($F(1,221)= 17.568$, $p< 0.000$, $1-\beta= .987$) and, remarkably, the negative emotion shame ($F(1,221)= 7.309$, $p= 0.007$, $1-\beta= 768$). For pride, desire and shame, the dangerous comment /high angle combination led to significantly higher scores when compared with the other comment/angle combinations. For the emotion satisfaction,

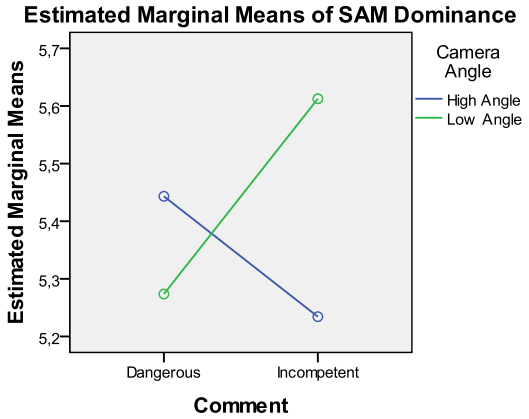
this was the case for the incompetent comment/low angle combination. The effect on the other three positive emotions, hope, joy and fascination, would be significant with $\alpha = .1$ instead of $\alpha = .01$. For hope and fascination, incompetent comment/low angle resulted in significantly higher scores when compared to the other combinations. For joy, this was the dangerous comment/high angle combination. A post-hoc Bonferroni test was executed to have a closer look at the directions of the effects. The results are displayed in figures 1 through to 7 and tables 6 and 7 in Appendix C.

TIPI

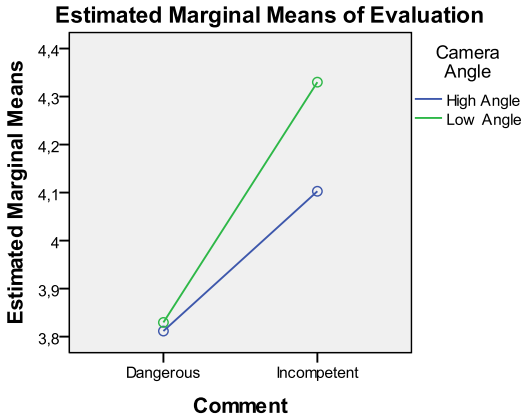
In every analysis in this study, the TIPI factor scores were added as possible co-variates. When scores showed up with a significant effect, they were examined more closely. In the MANCOVA of the semantic differential scores, none of the TIPI personality factors had a significant influence. In the MANCOVA of the SAM scores, agreeableness showed as having a significant influence on the valence and dominance factors. When it came to the PrEmo, the MANCOVA showed no influence of personality (See Appendix C, tables 8-10).

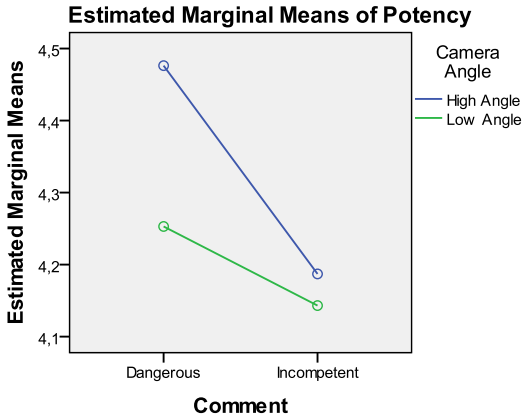


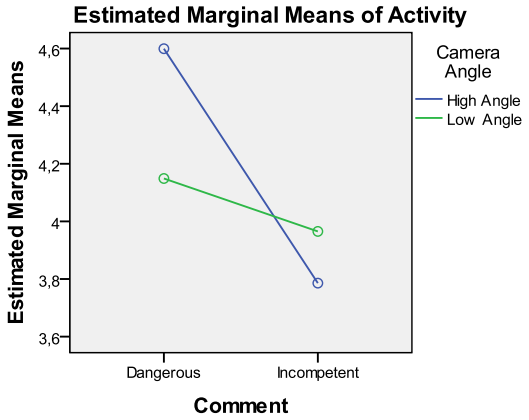




Figures 8-10 - Camera Angle * Comment Interaction plots for SAM factors.







Figures 11-13 - Camera Angle * Comment interaction plots for Semantic Differentials.

Other co-variates

The variable "person on photograph" and the general mood score were also used as co-variates in the analyses. The general mood score did not appear to have an effect on the semantic differential scores, but did effect the SAM factors of valence and dominance, with the lowest mood scores giving significantly lower scores on the SAM factors when compared to the higher mood scores. On the PrEmo, mood did not have any significant effects.

The "person on photograph" variable had an effect on the semantic differential factor evaluation ($F(1,225)= 10.415$, $p= .001$, $1-\beta= .895$), with one of the two people getting significantly higher evaluation scores than the other one. In the SAM analysis, the "person on photograph" variable had an significant effect on the valence factor ($F(1,225)= 6.713$, $p= .001$, $1-\beta= .897$). The same person that got a significantly higher evaluation score, was scored significantly higher on the SAM valence scale. On the PrEmo, the variable did not have a significant effect. (See Appendix C, tables 8-10)

Discussion

The results of this study show that a photograph placed in context can be more than mere decoration. The angle from which the photograph is taken can interact with the context, leading to different characteristics attributed to the person on the photograph, or different emotions elicited by that person. In this study, it was the combination of a high angle photograph and a dangerous comment that led to the people on the photograph being rated as significantly more active—by the activity factor of the semantic differentials—and lead to higher arousal—by the arousal scale of the SAM. On the specific emotions of the PrEmo, it were the high angle photograph and dangerous comment and the low angle photograph and incompetent comment that led to significantly higher scores on the emotions pride, satisfaction, desire, hope, joy, fascination and shame. The fact that vertical camera angle interacts with the context to influence opinion could be important for anyone using both text and photographs in their messages. Choosing the 'wrong' photograph might change

opinions into something that was not expected or aimed at by the composer of the text—while choosing the 'right' photograph might complement and strengthen the text. In addition, with vertical camera angle interacting with the context in which the photograph is presented, it is quite possible that vertical camera angle is not the only stylistic element that can interact with the context to influence opinions. To come to a better understanding of the possibilities of strengthening or weakening a text message with stylistic elements, their influence and possible interaction with the context in which they are presented and with each other needs more research.

In the sub-domain of stylistic elements that is the vertical camera angle, this study had expected to find three basic outcomes of the experiment: an effect of camera angle, an effect of comment or context, and an effect of interaction between the two. Although some effects of the interaction of camera angle and context were found, results on none of the measurement tools reflected any effect of camera angle. A number of studies conducted in the past (i.e. Tiemens, 1970; McCain, Chilberg & Wakshlag, 1977; Kraft, 1987) did find effects of "pure" camera angle. This research, combined with the embodiment theory, led to expectations of effects of the vertical camera angle that were not supported in the results of this study. Not all of these experiments were set up in exactly the same way though—varying in medium (film or photo) and in camera angle used. The angle might be a reason that camera angle alone did not elicit any effects. Although the 18 degree angle that was used in this experiment was specified by Kepplinger (1987) as a strong camera angle, it is possible that it was not enough in a still frame to communicate those emotions and characteristics as expected of the different angles. Indeed, the studies that found effects of camera angle using an angle around the 18 degrees were those researching film, not photographs (Tiemens, 1970; Mandell & Shaw, 1973; McCain, Chilberg & Wakshlag, 1977). The studies that found effects of vertical camera angle typically used an angle of around 40 degrees from eyelevel (Meyers-Levy & Peracchio, 1992; Sevenants & d'Ydewalle, 2006). Even though a larger angle might distort people's faces, it would be interesting to explore what a larger angle would do in an experiment that uses a photograph of someone's face, as this study did.

Another reason no effect of camera angle was found could be the processing modus, which is somewhat tied to the second assumption, the effect of the comment. In some studies that concerned the evaluating of people or objects (i.e. Meyers-Levy & Peracchio, 1992; Peracchio & Meyers-Levy, 2005; Maathuis, 2010), the lack of effect of camera angle could be explained with the theory that when people engage in more extensive processing, they subconsciously 'ignore' stylistic information like camera angle in favour of other information. However, based on those studies, the comment in this experiment was purposefully short. It was thought that the very brevity of the comment had been enough of an insurance against the switch in processing modus. Apparently, since the comment was the main source of significant effects on the scores on the semantic differentials, the part of the results that concerned the evaluation of the people, this was not the case. On the SAM and the PrEmo, however, the comment did not have any significant effects on its own either, making the switch to a more extensive processing modus debatable as a reason for the lack of effect of camera angle. As for the effect of the comment, the results on the semantic differentials confirmed the hypotheses, with the 'dangerous' comment being judged 'more bad' (i.e. scored lower on the evaluation factor), more potent and more active than the incompetent comment. Nevertheless, a study comparing the attributed characteristics and elicited emotions for an unaccompanied photograph, a photograph placed in context by text and only text could provide more insight into the possible switch in processing modi when confronted with the different stimuli.

The inconsistency between the results of the different tests is intriguing. As explained, the emotion experience in world-focus and self-focus are so tied together that when it is the same stimulus that triggers them, they are expected to correlate. Therefore, the results of the semantic differentials and the SAM and PrEmo should not just have been influenced by the camera angle and the comment, but they should have correlated. Drawing back on the emotion experience foci, this means it was assumed that the self-focus emotions elicited by the photographs—as measured by the SAM and the PrEmo—would correlate with the world-focus ascribed characteristics as measured by

the semantic differentials. Regardless, no correlation was found. Perhaps this is because the connection was less tangible than assumed.

One of the research questions concerned the influence of personality on the test results. The analysis showed only the factor agreeableness influenced the scores significantly, and only on the valence and dominance factors of the SAM. Intuitively, one would think personality could be of large influence on emotion experience, which is what the various scales measure. Although the influence of agreeableness seems logical, it is only found in the SAM. The other personality factors which one may suspect to have an—possibly much larger—effect like extraversion did not show up significantly in the analyses at all. Possibly personality is not as large an influence on emotion experience as one may have been expected.

Considering the lack of reliability of both the semantic differentials and the TIPI, that both draw heavily on written descriptions, one suggestion concerns the validity of the measurement instruments. In this study, translations were used for a number of the instruments. These translations were checked on face-value against their English counterparts. Validation of the translations might or might not produce different scores on those instruments that now used the un-validated translations, which in turn might lead to different effects of the independent variables. Another suggestion would be a more extensive pre-test of usable photographs. In spite of the pre-test in this study, the two persons used in the main study were judged significantly different on some factors. Having persons that are even more similar, or perhaps the use of more people, would probably lessen the overall impact of the “person on photograph” variable.

This study demonstrated that vertical camera angle in photographs—just one of many stylistic elements that can be modified—can interact with the context in which the photograph is presented. This illustrates the importance of careful selection of which photograph to use to accompany a message, for the stylistic elements of the photograph may interact with the context and lead to people attributing different characteristics to the subject, or feel different emotions than originally intended.

Author's Note

Special thanks to the young men who consented to having their photographs used in the experiment, and permitting having 159 people be told awful things about them: Frank Bos, Jordy van Gulijk, Martijn Meulenbroek and Foppe Benedictus.

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Appendix A

Pretest

Figure 1 - Photographing Setup

Table 3 - Comparison of Factor Means on the Semantic Differentials Factors

Pairwise Comparisons of the Factor Means, per Photograph

Factor	(I) Photograph	(J) Photograph	Mean Difference (I-J)	Std. Error	Sig.[a]
Potency	1	2	,407	,696	1,000
		3	,889	,626	1,000
		4	1,704	,572	,037
	2	1	-,407	,696	1,000
		3	,481	,571	1,000
		4	1,296	,739	,548
	3	1	-,889	,626	1,000
		2	-,481	,571	1,000
		4	,815	,638	1,000
	4	1	-1,704	,572	,037
		2	-1,296	,739	,548
		3	-,815	,638	1,000
Evaluation	1	2	-,222	,578	1,000
		3	1,296	,506	,099
		4	-1,481	,614	,139
	2	1	,222	,578	1,000
		3	1,519	,628	,137
		4	-1,259	,610	,294
	3	1	-1,296	,506	,099
		2	-1,519	,628	,137
		4	-2,778	,713	,004
	4	1	1,481	,614	,139
		2	1,259	,610	,294
		3	2,778	,713	,004
Activity	1	2	1,778	1,079	,668
		3	,519	,914	1,000
		4	1,667	,775	,246
	2	1	-1,778	1,079	,668
		3	-1,259	,867	,949
		4	-,111	,836	1,000
	3	1	-,519	,914	1,000
		2	1,259	,867	,949
		4	1,148	,847	1,000
	4	1	-1,667	,775	,246
		2	,111	,836	1,000
		3	-1,148	,847	1,000

a. Adjustment for multiple comparisons: Bonferroni.
*. The mean difference is significant at the ,05 level.

Appendix B

Methods

Naar aanleiding van de gewelddadige overval die hij eerder dit jaar pleegde zal morgenochtend de rechtszaak tegen H. de V. aanvangen. Slechts enkele van de misdrijven die de V. heeft begaan worden behandeld, hoewel deze door het overmatige gebruik van geweld wel als de belangrijkste worden gezien.

Figure 2 - Photograph of Person 1, High Angle, "Dangerous" comment

Meneer Jansen zal aanstaande maandag zitting nemen in het dagelijks bestuur. Tegenstanders uitten felle kritiek: "Het is in het verleden al meermalen gebleken dat Jansen uitermate onkundig te werk gaat. Practisch alle projecten onder zijn leiding gingen ten onder. Ook met de financiën heeft hij meerdere keren gefaald."

Figure 3 - Photograph of Person 1, Low Angle, "Incompetent" comment

Naar aanleiding van de gewelddadige overval die hij eerder dit jaar pleegde zal morgenochtend de rechtszaak tegen H. de V. aanvangen. Slechts enkele van de misdrijven die de V. heeft begaan worden behandeld, hoewel deze door het overmatige gebruik van geweld wel als de belangrijkste worden gezien.

Figure 4 - Photograph of Person 2, Low Angle, "Dangerous" comment

Meneer Jansen zal aanstaande maandag zitting nemen in het dagelijks bestuur. Tegenstanders uitten felle kritiek: "Het is in het verleden al meermalen gebleken dat Jansen uitermate onkundig te werk gaat. Practisch alle projecten onder zijn leiding gingen ten onder. Ook met de financiën heeft hij meerdere keren gefaald."

Figure 5 - Photograph of Person 2, High Angle, "Incompetent" comment.

Table 1 - Descriptive comments used

	Dutch	English
Dangerous	Naar aanleiding van de gewelddadige overval die hij eerder dit jaar pleegde zal morgenochtend de rechtszaak tegen H. de V. aanvangen. Slechts enkele vande misdrijven die de V. heeft begaan worden behandeld, hoewel deze door het overmatige gebruik van geweld wel als de belangrijkste worden gezien.	Following the violent assault committed earlier this year, the court case against H. de V. will commence tomorrow morning. Just a few of the crimes committed by de V. will be tried, although by the excessive use of violence, these are considered the most important.
Incompetent	Meneer Jansen zal aanstaande maandag zitting nemen in het dagelijks bestuur. Tegenstanders uitten felle kritiek: “Het is in het verleden al meermalen gebleken dat Jansen uitermate onkundig te werk gaat. Practisch alle projecten onder zijn leiding gingen ten onder. Ook met de financiën heeft hij meerdere keren gefaald.	Mr. Jansen will take his place in the executive board this Monday. Opponents express fierce criticisms: “The past learns that Jansen is extremely incompetent. All projects under his leadership crashed and financially he failed multiple times.

Self-Assessment Manikin scales

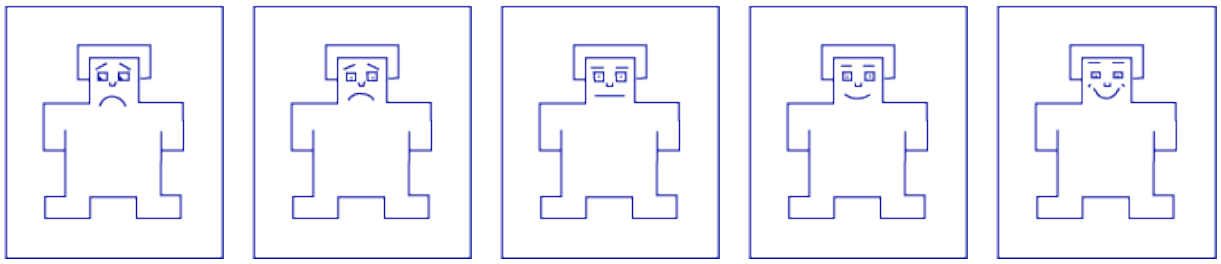

Figure 5 - Valence SAM scale.

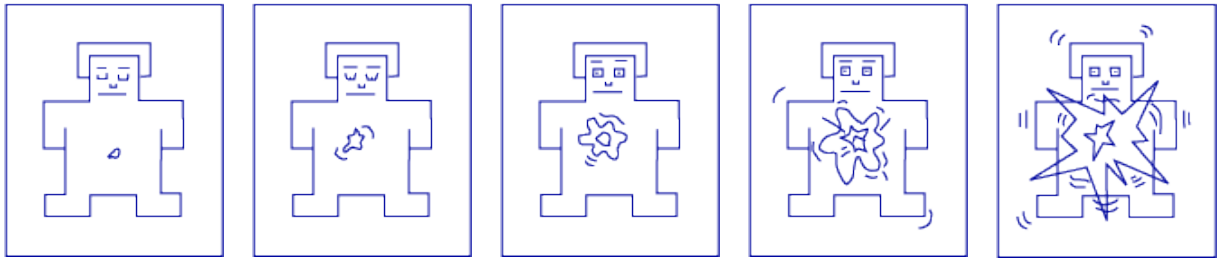

Figure 6 – Arousal SAM scale.

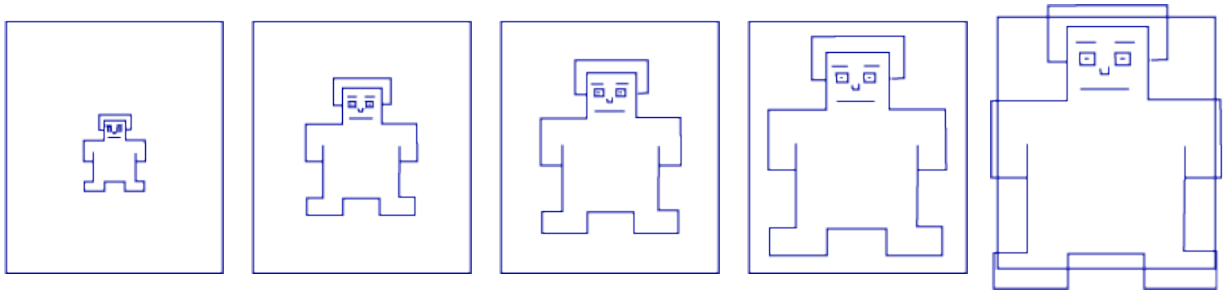

Figure 7 – Dominance SAM scale.

Translations

Table 2 - Original Text and Translations used for Semantic Differentials

Semantic Differentials in Dutch and English

	Dutch		English	
	Relative weight		Relative weight	
Factor	1	7	1	7
Evaluation	Slecht	Goed	Bad	Good
	Berucht	Befaamd	Disreputable	Reputable
	Dom	Wijs	Foolish	Wise
	Wreed	Vriendelijk	Cruel	Kind
	Onsuccesvol	Succesvol	Unsuccessful	Successful
Potency	Kwetsbaar	Stoer	Fragile	Tough
	Vrouwelijk	Mannelijk	Feminine	Masculine
	Onmachtig	Daadkrachtig	Impotent	Potent
	Tolerant	Streng	Lenient	Severe
	Laf	Dapper	Cowardly	Brave
Activity	Passief	Actief	Passive	Active
	Langzaam	Snel	Slow	Fast
	Bedaard	Agressief	Moderate	Violent
	Doordacht	Impulsief	Deliberate	Impulsive
	Doelloos	Gemotiveerd	Aimless	Motivated

Table 3 - Original Text and Translations used for TIPI

TIPI characteristics in Dutch and English

English	Dutch
Extraverted, Enthusiastic	Extravert, Enthousiast
Critical, Quarrelsome	Kritisch, Ruziezoekend
Dependable, Self-disciplined	Betrouwbaar, Gedisciplineerd
Anxious, Easily upset	Angstig, Makkelijk van streek
Open to new experiences, Complex	Openstaand voor nieuwe ervaringen, Complex
Reserved, Quiet	Gereserveerd, Rustig
Sympathetic, Warm	Sympathiek, Warm
Disorganised, Careless	Onordelijk, Nonchalant
Calm, Emotionally Stable	Kalm, Emotioneel stabiel
Conventional, Uncreative	Traditioneel, Niet Creatief

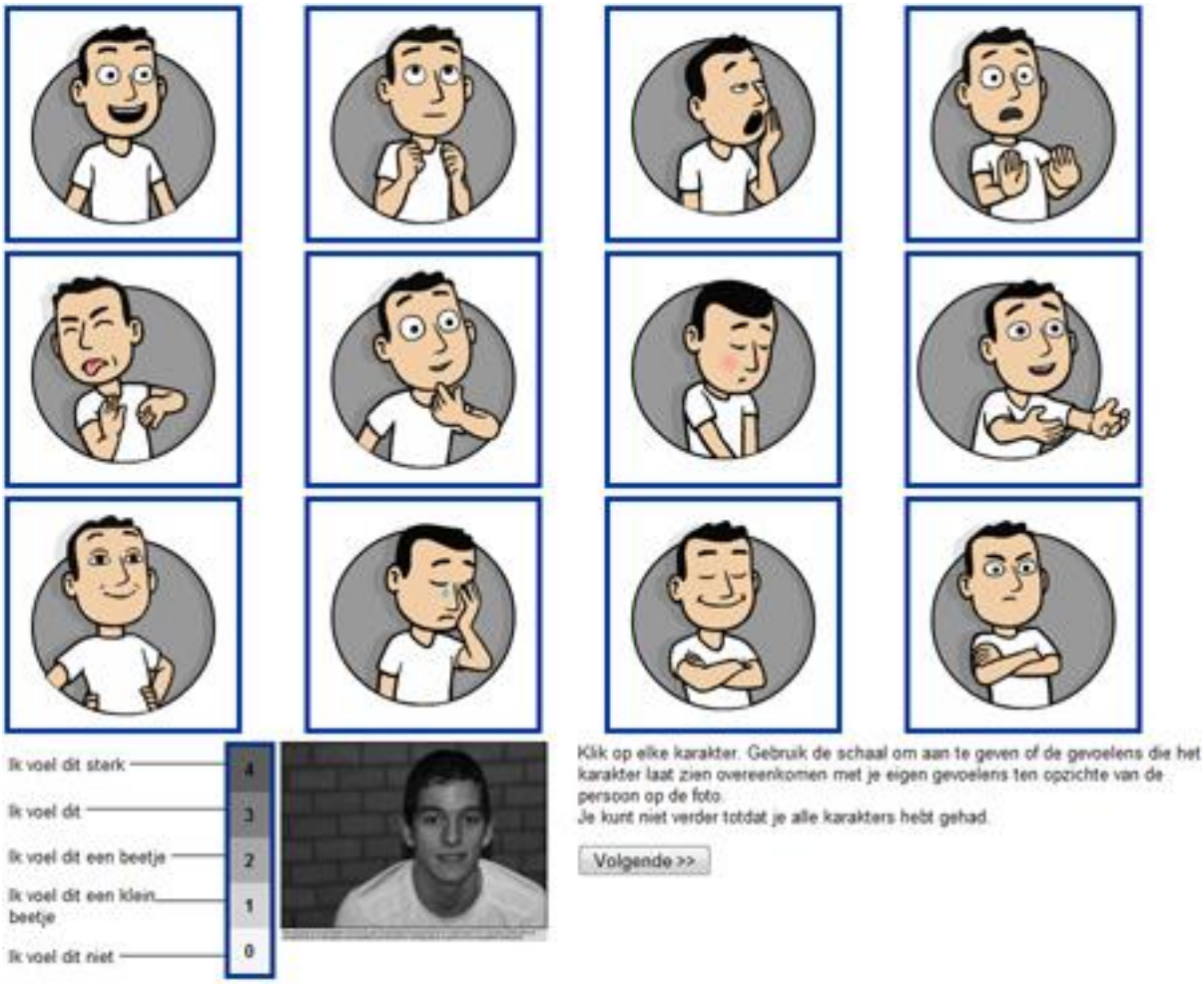

Figure 8 - Data-gathering phase of the PrEmo

Appendix C

Results

Table 1 - Estimated Marginal Means for Semantic Differential Results

Descriptive Statistics

Camera Angle		Comment	Mean	Std. Deviation	N
Evaluation	High Angle	Dangerous	3,78	1,046	64
		Incompetent	4,13	1,051	54
		Total	3,94	1,058	118
	Low Angle	Dangerous	3,85	1,025	54
		Incompetent	4,32	,885	64
		Total	4,10	,976	118
	Total	Dangerous	3,82	1,033	118
		Incompetent	4,23	,965	118
		Total	4,02	1,019	236
Potency	High Angle	Dangerous	4,47	,708	64
		Incompetent	4,20	,724	54
		Total	4,35	,724	118
	Low Angle	Dangerous	4,26	,824	54
		Incompetent	4,13	,803	64
		Total	4,19	,812	118
	Total	Dangerous	4,37	,767	118
		Incompetent	4,16	,765	118
		Total	4,27	,772	236
Activity	High Angle	Dangerous	4,58	,759	64
		Incompetent	3,82	,823	54
		Total	4,23	,872	118
	Low Angle	Dangerous	4,17	,900	54
		Incompetent	3,94	,756	64
		Total	4,05	,829	118
	Total	Dangerous	4,39	,847	118
		Incompetent	3,88	,786	118
		Total	4,14	,854	236

Table 2 - Estimated Marginal Means for SAM Results

Descriptive Statistics

	Camera Angle (H=1, L=2)	Comment (g=1, o=2)	Mean	Std. Deviation	N
SAM Valence	High Angle	Dangerous	5,17	1,714	64
		Incompetent	5,35	1,507	54
		Total	5,25	1,618	118
	Low Angle	Dangerous	5,41	1,721	54
		Incompetent	5,45	1,708	64
		Total	5,43	1,707	118
	Total	Dangerous	5,28	1,714	118
		Incompetent	5,41	1,613	118
		Total	5,34	1,662	236
SAM Arousal	High Angle	Dangerous	4,45	2,047	64
		Incompetent	3,43	1,939	54
		Total	3,98	2,055	118
	Low Angle	Dangerous	3,63	1,993	54
		Incompetent	3,67	1,604	64
		Total	3,65	1,785	118
	Total	Dangerous	4,08	2,055	118
		Incompetent	3,56	1,762	118
		Total	3,82	1,928	236
SAM Dominance	High Angle	Dangerous	5,42	1,698	64
		Incompetent	5,26	1,650	54
		Total	5,35	1,671	118
	Low Angle	Dangerous	5,30	1,859	54
		Incompetent	5,59	1,917	64
		Total	5,46	1,889	118
	Total	Dangerous	5,36	1,767	118
		Incompetent	5,44	1,800	118
		Total	5,40	1,780	236

Table 3 - MANCOVA Results for Semantic Differentials

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Camera Angle	Evaluation	,879	1	,879	,916	,339	,159
	Potency	1,045	1	1,045	1,832	,177	,271
	Activity	1,075	1	1,075	1,647	,201	,248
Comment	Evaluation	9,169	1	9,169	9,555	,002	,868
	Potency	2,330	1	2,330	4,087	,044	,521
	Activity	14,560	1	14,560	22,320	,000	,997
CameraAngle * Comment	Evaluation	,609	1	,609	,634	,427	,125
	Potency	,447	1	,447	,785	,377	,143
	Activity	5,518	1	5,518	8,458	,004	,825
Error	Evaluation	215,907	225	,960			
	Potency	128,291	225	,570			
	Activity	146,779	225	,652			

a. Computed using alpha = ,05

Table 4 - MANCOVA Results for SAM

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Camera Angle	SAM Valence	1,322	1	1,322	,513	,475	,110
	SAM Arousal	4,889	1	4,889	1,342	,248	,211
	SAM Dominance	,636	1	,636	,206	,650	,074
Comment	SAM Valence	,705	1	,705	,273	,602	,082
	SAM Arousal	13,960	1	13,960	3,833	,051	,496
	SAM Dominance	,247	1	,247	,080	,778	,059
CameraAngle * Comment	SAM Valence	,077	1	,077	,030	,863	,053
	SAM Arousal	17,815	1	17,815	4,892	,028	,596
	SAM Dominance	4,174	1	4,174	1,351	,246	,212
Error	SAM Valence	580,207	225	2,579			
	SAM Arousal	819,395	225	3,642			
	SAM Dominance	695,193	225	3,090			

a. Computed using alpha = ,05

Table 5 - Semantic Differentials Bonferroni Results per Comment

Pairwise Comparisons

Dependent Variable	(I) Comment	(J) Comment	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
Evaluation	Dangerous	Incompetent	-,396*	,128	,002	-,648	-,143
Potency	Dangerous	Incompetent	,200*	,099	,044	,005	,394
Activity	Dangerous	Incompetent	,499*	,106	,000	,291	,707

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

a. Adjustment for multiple comparisons: Bonferroni.

PrEmo emotions showing effects of the interaction Comment x Camera Angle with α= .01

Figure 1 - Interaction Plot for Satisfaction

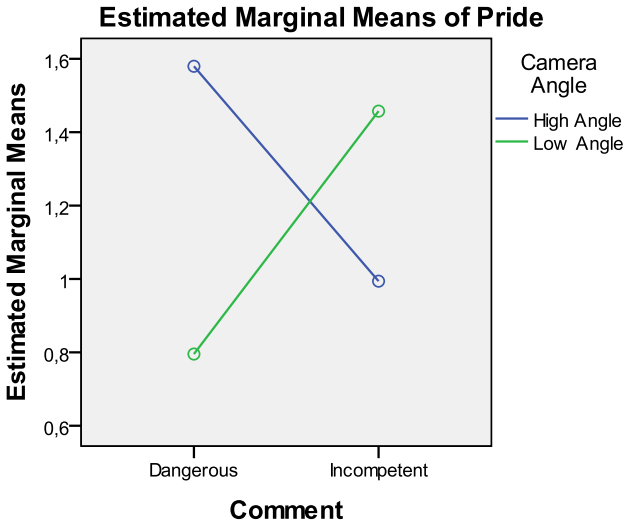

Figure 2 - Interaction Plot for Pride

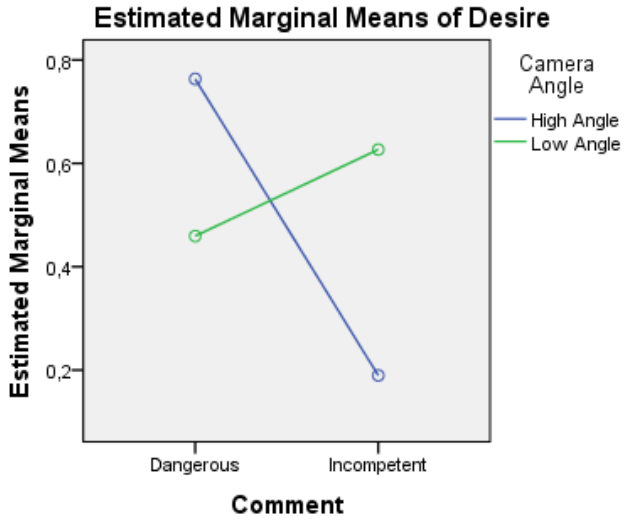

Figure 3 - Interaction Plot for Desire

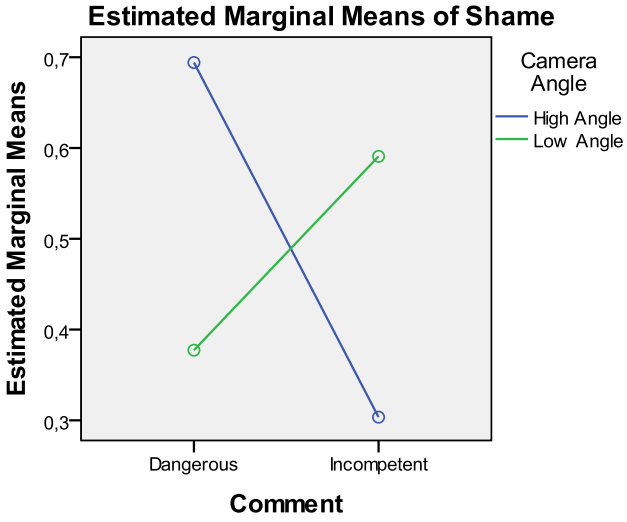

Figure 4 - Interaction Plot for Shame

PrEmo emotions showing effects of the interaction Comment x Camera Angle with α= .1

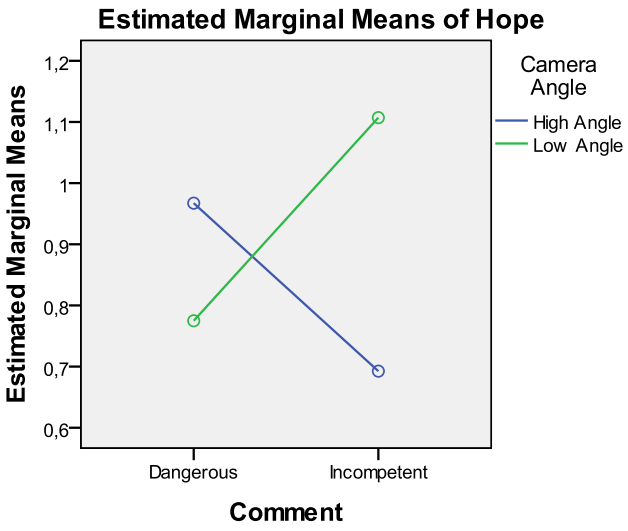

Figure 5 - Interaction plot for Hope

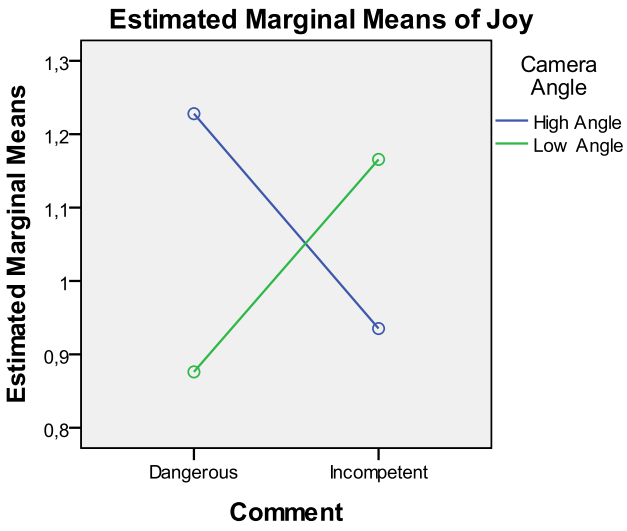

Figure 7 - Interaction plot for Fascination

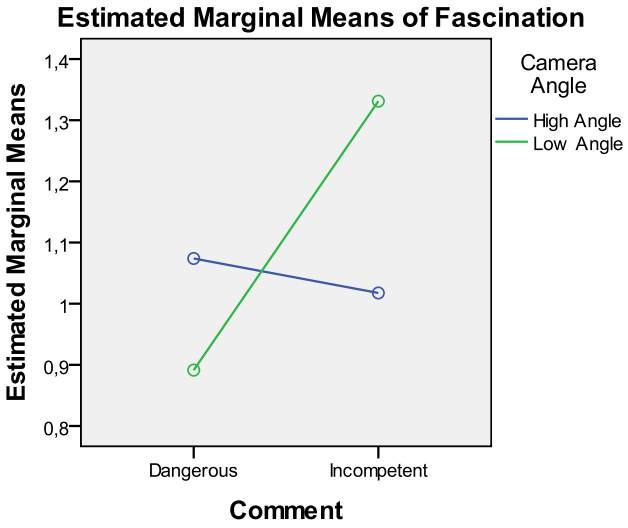

Table 6 - Mean Comparison for PrEmo per Angle * Comment – Positive Emotions

Camera Angle * Comment

Dependent Variable	Camera Angle	Comment	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Desire	High Angle	Dangerous	,752[a]	,108	,540	,965
		Incompetent	,202[a]	,118	-,030	,434
	Low Angle	Dangerous	,473[a]	,117	,242	,704
		Incompetent	,616[a]	,108	,403	,828
Satisfaction	High Angle	Dangerous	1,386[a]	,145	1,101	1,671
		Incompetent	1,149[a]	,158	,838	1,460
	Low Angle	Dangerous	1,007[a]	,157	,697	1,317
		Incompetent	1,638[a]	,145	1,354	1,923
Pride	High Angle	Dangerous	1,554[a]	,139	1,281	1,828
		Incompetent	1,026[a]	,152	,727	1,325
	Low Angle	Dangerous	,823[a]	,151	,526	1,121
		Incompetent	1,432[a]	,139	1,159	1,706
Hope	High Angle	Dangerous	,954[a]	,132	,693	1,215
		Incompetent	,707[a]	,145	,422	,992
	Low Angle	Dangerous	,792[a]	,144	,509	1,076
		Incompetent	1,094[a]	,132	,833	1,354
Joy	High Angle	Dangerous	1,207[a]	,141	,929	1,485
		Incompetent	,960[a]	,154	,656	1,263
	Low Angle	Dangerous	,901[a]	,153	,599	1,203
		Incompetent	1,145[a]	,141	,867	1,423
Fascination	High Angle	Dangerous	1,071[a]	,135	,804	1,337
		Incompetent	1,019[a]	,148	,728	1,311
	Low Angle	Dangerous	,897[a]	,147	,607	1,187
		Incompetent	1,328[a]	,135	1,061	1,594

a. Covariates appearing in the model are evaluated at the following values: Persoon = 1,50, Mood = 4,81, Extraversion Sumscore = 8,82, Agreeableness Sumscore = 10,45, Consentiousness Sumscore = 9,94, Emotional Stability Sumscore = 9,68, Openness Sumscore = 10,31.

Table 7 - Mean Comparison for PrEmo per Angle * Comment – Negative Emotions

Camera Angle * Comment

Dependent Variable	Camera Angle	Comment	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Disgust	High Angle	Dangerous	1,093[a]	,152	,795	1,392
		Incompetent	,871[a]	,166	,545	1,197
	Low Angle	Dangerous	1,164[a]	,165	,840	1,489
		Incompetent	1,143[a]	,152	,844	1,441
Dissatisfaction	High Angle	Dangerous	1,536[a]	,161	1,219	1,853
		Incompetent	1,504[a]	,176	1,157	1,850
	Low Angle	Dangerous	1,559[a]	,175	1,214	1,904
		Incompetent	1,489[a]	,161	1,172	1,807
Shame	High Angle	Dangerous	,689[a]	,106	,481	,897
		Incompetent	,310[a]	,115	,083	,537
	Low Angle	Dangerous	,384[a]	,115	,158	,610
		Incompetent	,585[a]	,106	,377	,793
Fear	High Angle	Dangerous	,867[a]	,139	,593	1,142
		Incompetent	,990[a]	,152	,690	1,290
	Low Angle	Dangerous	,945[a]	,151	,646	1,243
		Incompetent	,953[a]	,139	,679	1,228
Sadness	High Angle	Dangerous	,553[a]	,109	,338	,768
		Incompetent	,325[a]	,119	,090	,559
	Low Angle	Dangerous	,396[a]	,119	,162	,630
		Incompetent	,495[a]	,109	,280	,710
Boredom	High Angle	Dangerous	1,975[a]	,165	1,651	2,300
		Incompetent	1,844[a]	,180	1,489	2,198
	Low Angle	Dangerous	1,783[a]	,179	1,430	2,136
		Incompetent	1,402[a]	,165	1,077	1,726

a. Covariates appearing in the model are evaluated at the following values: Persoon = 1,50, Mood = 4,81, Extraversion Sumscore = 8,82, Agreeableness Sumscore = 10,45, Consentiousness Sumscore = 9,94, Emotional Stability Sumscore = 9,68, Openness Sumscore = 10,31.

Table 8 - Co-variate MANCOVA results on Semantic Differentials

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Persoon	Evaluation	9,994	1	9,994	10,415	,001	,895
	Potency	1,144	1	1,144	2,007	,158	,292
	Activity	,001	1	,001	,001	,972	,050
Mood	Evaluation	,299	1	,299	,312	,577	,086
	Potency	1,012	1	1,012	1,776	,184	,264
	Activity	,933	1	,933	1,430	,233	,222
Extraversion	Evaluation	,558	1	,558	,582	,446	,118
	Potency	,203	1	,203	,356	,551	,091
	Activity	,214	1	,214	,328	,567	,088
Agreeableness	Evaluation	,232	1	,232	,242	,623	,078
	Potency	,676	1	,676	1,186	,277	,192
	Activity	,123	1	,123	,189	,664	,072
Consentiousness	Evaluation	,179	1	,179	,186	,667	,071
	Potency	1,542	1	1,542	2,704	,101	,374
	Activity	1,483	1	1,483	2,273	,133	,323
EmotionalStability	Evaluation	2,274	1	2,274	2,369	,125	,335
	Potency	1,288	1	1,288	2,259	,134	,322
	Activity	,070	1	,070	,107	,744	,062
Openness	Evaluation	1,152	1	1,152	1,200	,274	,194
	Potency	,525	1	,525	,921	,338	,159
	Activity	,287	1	,287	,440	,508	,101
Error	Evaluation	215,907	225	,960			
	Potency	128,291	225	,570			
	Activity	146,779	225	,652			

a. Computed using alpha = ,05

Table 9 - Co-variate MANCOVA results on SAM

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Persoon	SAM Valence	27,050	1	27,050	10,490	,001	,897
	SAM Arousal	,885	1	,885	,243	,623	,078
	SAM Dominance	,406	1	,406	,131	,717	,065
Mood	SAM Valence	17,311	1	17,311	6,713	,010	,732
	SAM Arousal	,284	1	,284	,078	,780	,059
	SAM Dominance	18,067	1	18,067	5,848	,016	,673
Extraversion	SAM Valence	2,448	1	2,448	,949	,331	,163
	SAM Arousal	,524	1	,524	,144	,705	,066
	SAM Dominance	,582	1	,582	,188	,665	,072
Agreeableness	SAM Valence	12,649	1	12,649	4,905	,028	,597
	SAM Arousal	2,423	1	2,423	,665	,416	,128
	SAM Dominance	13,302	1	13,302	4,305	,039	,542
Consentiousness	SAM Valence	2,869	1	2,869	1,113	,293	,183
	SAM Arousal	10,387	1	10,387	2,852	,093	,391
	SAM Dominance	,855	1	,855	,277	,599	,082
EmotionalStability	SAM Valence	4,009	1	4,009	1,555	,214	,237
	SAM Arousal	1,948	1	1,948	,535	,465	,113
	SAM Dominance	9,985	1	9,985	3,232	,074	,433
Openness	SAM Valence	,820	1	,820	,318	,573	,087
	SAM Arousal	,017	1	,017	,005	,945	,051
	SAM Dominance	,529	1	,529	,171	,679	,070
Error	SAM Valence	580,207	225	2,579			
	SAM Arousal	819,395	225	3,642			
	SAM Dominance	695,193	225	3,090			

a. Computed using alpha = ,05

Table 10 - Co-variate MANCOVA results on PrEmo

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Persoon	Desire	,994	1	,994	1,353	,246	,212
	Satisfaction	,399	1	,399	,302	,583	,085
	Pride	,459	1	,459	,377	,540	,094
	Hope	,043	1	,043	,039	,844	,054
	Joy	,002	1	,002	,002	,968	,050
	Fascination	3,148	1	3,148	2,724	,100	,376
	Disgust	,382	1	,382	,263	,609	,080
	Dissatisfaction	,000	1	,000	,000	,989	,050
	Shame	2,099	1	2,099	2,980	,086	,405
	Fear	3,617	1	3,617	2,951	,087	,402
	Sadness	1,272	1	1,272	1,691	,195	,253
	Boredom	1,253	1	1,253	,731	,393	,136
Mood	Desire	,455	1	,455	,620	,432	,123
	Satisfaction	4,522	1	4,522	3,422	,066	,453
	Pride	3,176	1	3,176	2,608	,108	,363
	Hope	,222	1	,222	,201	,655	,073
	Joy	4,256	1	4,256	3,388	,067	,449
	Fascination	,986	1	,986	,853	,357	,151
	Disgust	,973	1	,973	,670	,414	,129
	Dissatisfaction	,031	1	,031	,019	,891	,052
	Shame	,026	1	,026	,036	,849	,054
	Fear	1,524	1	1,524	1,243	,266	,199
	Sadness	1,986	1	1,986	2,640	,106	,366
	Boredom	,018	1	,018	,010	,919	,051
Extraversion	Desire	1,163	1	1,163	1,582	,210	,240
	Satisfaction	,015	1	,015	,011	,916	,051
	Pride	,564	1	,564	,463	,497	,104
	Hope	,616	1	,616	,557	,456	,115
	Joy	,951	1	,951	,757	,385	,139
	Fascination	,146	1	,146	,126	,723	,064
	Disgust	3,346	1	3,346	2,304	,130	,327
	Dissatisfaction	6,659	1	6,659	4,064	,045	,519
	Shame	,534	1	,534	,758	,385	,140
	Fear	,475	1	,475	,387	,534	,095
	Sadness	,031	1	,031	,042	,838	,055
	Boredom	,008	1	,008	,005	,944	,051

a. Computed using alpha = ,05

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Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Agreeableness	Desire	1,532	1	1,532	2,084	,150	,301
	Satisfaction	,025	1	,025	,019	,892	,052
	Pride	7,759	1	7,759	6,370	,012	,710
	Hope	1,538	1	1,538	1,390	,240	,217
	Joy	,028	1	,028	,023	,881	,053
	Fascination	,074	1	,074	,064	,800	,057
	Disgust	3,059	1	3,059	2,107	,148	,304
	Dissatisfaction	,195	1	,195	,119	,730	,064
	Shame	1,967	1	1,967	2,793	,096	,384
	Fear	,114	1	,114	,093	,760	,061
	Sadness	1,958	1	1,958	2,603	,108	,362
	Boredom	,427	1	,427	,249	,618	,079
Consentiousness	Desire	1,182	1	1,182	1,608	,206	,243
	Satisfaction	1,708	1	1,708	1,293	,257	,205
	Pride	,727	1	,727	,597	,441	,120
	Hope	1,223	1	1,223	1,105	,294	,182
	Joy	,020	1	,020	,016	,900	,052
	Fascination	,731	1	,731	,633	,427	,124
	Disgust	5,056	1	5,056	3,482	,063	,460
	Dissatisfaction	1,968	1	1,968	1,201	,274	,194
	Shame	1,437	1	1,437	2,041	,155	,296
	Fear	1,011	1	1,011	,825	,365	,148
	Sadness	,480	1	,480	,638	,425	,125
	Boredom	8,592	1	8,592	5,013	,026	,606
EmotionalStability	Desire	1,445	1	1,445	1,967	,162	,287
	Satisfaction	1,127	1	1,127	,853	,357	,151
	Pride	1,158	1	1,158	,951	,331	,163
	Hope	1,572	1	1,572	1,421	,235	,221
	Joy	,105	1	,105	,084	,772	,060
	Fascination	,011	1	,011	,010	,921	,051
	Disgust	,006	1	,006	,004	,948	,050
	Dissatisfaction	1,410	1	1,410	,861	,355	,152
	Shame	1,261	1	1,261	1,790	,182	,266
	Fear	1,475	1	1,475	1,203	,274	,194
	Sadness	,872	1	,872	1,159	,283	,189
	Boredom	,723	1	,723	,422	,517	,099

a. Computed using alpha = ,05

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Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power[a]
Openness	Desire	,843	1	,843	1,148	,285	,187
	Satisfaction	3,074	1	3,074	2,327	,129	,330
	Pride	1,949	1	1,949	1,600	,207	,242
	Hope	,007	1	,007	,006	,939	,051
	Joy	,181	1	,181	,144	,705	,067
	Fascination	,217	1	,217	,188	,665	,072
	Disgust	,206	1	,206	,142	,707	,066
	Dissatisfaction	1,564	1	1,564	,954	,330	,163
	Shame	,047	1	,047	,067	,796	,058
	Fear	2,313	1	2,313	1,887	,171	,277
	Sadness	1,780	1	1,780	2,367	,125	,335
	Boredom	2,269	1	2,269	1,323	,251	,209
Error	Desire	165,332	225	,735			
	Satisfaction	297,320	225	1,321			
	Pride	274,042	225	1,218			
	Hope	248,966	225	1,107			
	Joy	282,701	225	1,256			
	Fascination	260,027	225	1,156			
	Disgust	326,700	225	1,452			
	Dissatisfaction	368,678	225	1,639			
	Shame	158,480	225	,704			
	Fear	275,803	225	1,226			
	Sadness	169,237	225	,752			
	Boredom	385,685	225	1,714			

a. Computed using alpha = ,05