

## A Case of the “Heeby Jeebies”: An Examination of Intuitive Judgements of “Creepiness”

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The present research examined “creepiness,” a commonly referenced but little understood construct. In Study 1, 185 undergraduates (74% women) provided qualitative data on the defining characteristics of “creepiness.” “Creepiness” was found to reside in the eyes, and was associated with men with ectomorphic-like bodies, with a dishevelled appearance, between 31 and 50 years of age. In Study 2, 48 students (71% women) rated black-and-white photographs of Caucasian male faces on a 7-point Likert-type scale for “creepiness,” trustworthiness, and attractiveness. Pictures included 15 neutral images from the Sterling University Psychological Image Collection, 15 images from America’s Most Wanted website, and 15 images rated most “creepy” in a pilot study. “Creepy” faces were perceived to be significantly less trustworthy, less attractive, and more “creepy” than the other 2 groups. There was a significant correlation between trustworthiness and attractiveness across all 3 groups, with between 25% and 58% of the variance in trustworthiness ratings explained by attractiveness. Results are discussed in terms of how judgments of “creepiness” are made, how “creepiness” may be less about physical peril and more about ambiguity of threat and violations of social norms, and implications for stigmatized populations such as the mentally ill.

*Keywords:* “creepiness,” risk analysis, ambiguity, mental illness, stigma

*Between the mountains of safety and danger, there is a valley of creepiness where the limits of our knowledge, trust and security aren't very clear. (Stevens, 2013)*

Although most people can call to mind a “creepy” person or a “creepy” situation, the concept of “creepiness” (S. Porter, personal communication, May 17, 2010) has no clear definition in forensic psychology and, to date, has inspired only one published study. In 2016, McAndrew and Koehnke published the results of a large survey ( $N = 1341$ ; 77% women;  $M_{\text{age}} = 29$  years) designed to identify the cues that people use to label others as “creepy.” Participants were asked to consider a scenario pertaining to a “creepy” person and to rate the likelihood that the person exhibited 44 different behaviours. Participants also rated the “creepiness” of 21 occupations, cited two “creepy” hobbies, and indicated their level of agreement with 15 statements about the nature of a “creepy” person. Results indicated that men were significantly more apt to be perceived as “creepy” than women, and women were significantly more apt to associate “creepy” with sexual

threat. Clowns were regarded as the “creepiest” of occupations, and hobbies that involved collecting or watching things were perceived as “creepy.” Unpredictability was deemed an important component of “creepy” behaviour.

McAndrew and Koehnke’s (2016) findings fit with those of others showing that unusual nonverbal behaviours (e.g., non-normative amounts of behavioural mimicry) can trigger suspicion (Leander, Chartrand, & Bargh, 2012), and that odd or inappropriate expressions of emotion can elicit social distancing (Szczyrek, Monin, and Gross (2012). Their findings also fit with the suggestion that “creepiness” arises from ambiguity or lack of clear meaning in a potential threat. Ambiguity impedes the encoding of a threat stimulus as either malicious or benign, friend or foe. What cannot be encoded (known) activates our alarm system (“fear of the unknown”; Carleton, 2016a); “creepiness” may reside in between the unknowing and the fear (Petter, 2013).

Ambiguity has been implicated in people’s fears of masks or clowns (approximately 2% of people self-report a fear of clowns; Honigmann, 1977; Lévi-Strauss, 1961; Seim & Spates, 2009). Research with androids also shows that ambiguity can be “creepy.” The more human-like a robot is, the greater is its likability (i.e., our affinity for it), but only up to a point. Early research by Mori (1970/2012) found that, at about 75% familiarity, the robot begins to appear too human and its likability diminishes dramatically, at which point it becomes unnerving and frightening—it becomes “creepy.” This dramatic dip in likability is referred to as the “uncanny valley” (Mori, 1970/2012), explanations for which include abnormal facial features, such as unusual eyes (Seyama &

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Nagayama, 2007), and violations of expectations, such as a robot conveying the capacity to experience emotions or a person conveying a lack of capacity to do so (see Gray & Wegner, 2012).

In an early essay on the topic, Freud (1919) suggested that the eyes were the key to the uncanny. Empirical testing of the uncanny valley hypothesis confirmed a facial feature hierarchy across the human likeness dimension, with eyes at the top, followed by nose and mouth in descending order. Evidence supported a greater preferential processing of eyes and mouth of ambiguous (vs. unambiguous) avatar faces, with no significant differences between ambiguous and human faces. Findings applied to men and women alike, although women generally dwelled more on the eyes at the expense of the nose (Cheetham, Pavlovic, Jordan, Suter, & Jancke, 2013).

Other explanations for why someone might be perceived as “creepy” include inconsistencies between verbal and nonverbal behaviour (Weisbuch, Ambady, Clarke, Achor, & Weele, 2010) and deviant displays of emotion (Szczurek et al., 2012). It is also possible that some people are more apt to perceive “creepiness” in encounters than others. For example, Stillman, Maner, and Baumeister (2010) suggested that accurately identifying threat in social interactions would be more adaptive for females, as they may have more to lose by making an incorrect threat judgment than their male counterparts. Consistent with this suggestion, Stillman et al. (2010) found that female (vs. male) participants were more likely to perceive higher levels of aggressiveness when asked to look at a picture for a brief two seconds and, then, differentiate between violent and nonviolent offenders.

Assessing threat in social interactions can involve two broad types of processes or systems: analytical (slow, deliberate, requiring more conscious effort) and intuitive (fast, reflexive, and requiring minimal cognitive resources) (e.g., Kahneman, 2013; Slovic, Finucane, Peters, & MacGregor, 2004). Intuitive judgments rely largely on pattern recognition. They may be triggered by ambiguous stimuli, such as meeting a person for the first time, and based primarily on brief scrutiny of the face. The face is the canvas upon which we display our emotions and intentions and so is the primary source of scrutiny for many reasons: It is present in almost all social situations, and its features (until quite recently) could not easily be altered. Moreover, it seems our brains are equipped with areas specifically designed to analyse faces (Hassin & Trope, 2000). When the face is obscured or masked (e.g., a clown face), we are denied an important source of information about another’s true emotions, attitudes, intentions, and potential to do us harm.

Research shows that a person can extract information required for first impression formation from static photographs presented for 10 seconds (Berry, 1990). Bar, Neta, and Linz (2006) found that participants’ initial impressions were formed within the first 39 milliseconds and based on whatever information was available. To Bar et al. (2006), this speed suggested little depth of analysis (i.e., more intuitive than analytical). Similarly, Willis and Todorov (2006) found that minimal exposure (100 milliseconds) to a stranger’s face was sufficient to render judgments of trustworthiness and attractiveness. These trait inferences did not change with longer exposure, although participants’ confidence in their judgments increased.

Porter, England, Juodis, ten Brinke, and Wilson (2008) examined the accuracy of first impressions of trustworthiness by having

participants rate the trustworthiness, kindness, and aggressiveness of static facial images of known dangerous and untrustworthy individuals selected from America’s Most Wanted Criminals website. Participants also rated “Noble Peace Prize” winners and Order of Canada Humanitarians, who were presumed to be more trustworthy. After being made aware of the two group classifications, participants evaluated to which group each target face belonged. Participants showed greater accuracy at judging trustworthy versus untrustworthy faces, although at levels only slightly above chance. Longer exposure did not affect the accuracy of judgments, but did enhance participants’ confidence in their judgments.

“Creepiness” judgments may activate a biased decision-making process called the Dangerous Decisions Theory (DDT; Porter & ten Brinke, 2010). The DDT process can result in “tunnel vision” whereby an individual looks for evidence to confirm their beliefs and interprets ambiguous information in a way that is in line with these beliefs. Indeed, recent research by Korva, Porter, O’Connor, Shaw, and ten Brinke (2013) has revealed that faces varying in degrees of trustworthiness tend to activate particular biases and tunnel vision that influence decision-making outcomes. Despite compelling disconfirming evidence, these intuitive judgments will endure and will influence subsequent interactions (Porter & ten Brinke, 2010).

The aforementioned findings fit with others (e.g., Ambady, Krabbenhoft, & Hogan, 2006) indicating that first impressions are rapidly formed, durable, and consequential. First impressions can be vulnerable to biases, however, such as critical thinking errors (e.g., “tunnel vision” or confirmation bias) or reliance on false stereotypes. Physical appearance, for example, tends to be overweighed in judgments, and this can negatively impact accuracy (Olivola & Todorov, 2010). Indeed, substantive evidence confirms a general belief that physically attractive people are intelligent, competent, and trustworthy, a belief that leads to favourable outcomes. For example, Porter and ten Brinke (2009) found that attractive (vs. unattractive) defendants were more likely to be found not guilty, given shorter sentences, and considered less dangerous.

A person’s physique also may influence others’ first impressions. For example, a preponderance of research links the mesomorphic body type (ruggedly muscular) to delinquency and criminal conduct (Ellis & Walsh, 2000). According to Wilson and Herrnstein (1985), “wherever it has been examined, criminals on the average differ in that physique from the population at large, they tend to be more mesomorphic (muscular) and less ectomorphic (linear).” Butler, Ryckman, Thornton, and Bouchard (1993) conducted two studies in an attempt to determine the full range of traits associated with each physique. Results of both studies supported previous findings indicating that people with more mesomorphic body types tend to be viewed positively, whereas those with endomorphic body types (soft and round) tend to be viewed negatively. Interestingly, those with ectomorphic body types were viewed both ways—favourably in one study and unfavourably in another—seemingly ambiguously.

While lacking a clear definition (and substantive published research), it is generally agreed that the term “creepiness” has a negative connotation. Describing someone as “creepy” could have a deleterious impact on that person, especially if the label persists and if the person is a member of a vulnerable population (e.g., homeless or mentally ill). Consequently, the present three studies

sought to address a number of questions related to the construct of “creepiness.” A pilot study was conducted to test items and identify target images of “creepy” to be used in Studies 1 and 2. Study 1 explored participants’ experiences with, definitions of, and responses to “creepiness.” Study 2 tested a subset of Study 1 participants’ responses to 15 “creepy” images, 15 untrustworthy images from Porter et al.’s (2008) study, and 15 control or neutral images.

The present study was impelled by the following hypotheses: (1) People would report making relatively rapid (vs. more deliberative) judgments of “creepiness” based on facial features, particularly the eyes (Cheetham et al., 2013; Kahneman, 2013); (2) “creepiness” would relate positively to untrustworthiness, which would relate negatively to physical attractiveness (Porter et al., 2009); and (3) women would report identifying “creepy” people faster, and perceive them as more threatening, than men (see McAndrew & Koehnke, 2016; Stillman et al., 2010).

## Method

### Participants

All participants in each of the three studies were undergraduate students, predominantly Euro-Canadian (>90%), from a small undergraduate university in northeastern Nova Scotia, who had indicated their willingness to participate by signing the informed consent form. All participants received course credits for participating.

### Materials

Face stimuli included 45 grayscale photographs of White adult male faces taken from a frontal perspective; 15 photos contained faces that obtained the highest “creepiness” ratings in a pilot study (see below); 15 photos were taken from the University of Sterling Psychological Image Collection (PICS; <http://pics.psych.stir.ac.uk/>), rigorously tested to ensure that they are emotionally neutral; and 15 photos were faces of criminals taken from the America’s Most Wanted list (AMW; [http://www.amw.com/fugitives/most\\_wanted\\_lists.cfm](http://www.amw.com/fugitives/most_wanted_lists.cfm)). The same photos that were used in Porter et al.’s (2008) study were used here with permission of the authors. Images were presented via an overhead projector onto a large overhead screen, controlled by a Macintosh computer.

### Measure

Assessment of Traits Inventory (ATI; Porter et al., 2008): The ATI is a rating sheet designed to assess trait judgments made by participants after exposure to a target face, in this case, trait judgments of trustworthiness, attractiveness, and “creepiness.” Response options for each trait scale ranged from 1 (*not at all*) to 7 (*extremely*), an optimal number of response categories (Preston & Colman, 2000). Average rating scores were calculated for the 15 images in each group for each of the three traits. This aggregation procedure was deemed to be justified following the factor analysis of each group of 15 images (PICS, AMW, and Pilot), as well as an assessment of the internal coherence of each scale. Exploratory factor analysis (EFA) was conducted using the procedures recommended through FACTOR (Lorenzo-Seva & Ferrando, 2015), an

approach found to be preferable to SPSS for running EFAs with ordinal data (see Baglin, 2014). Each group of images was submitted to parallel analysis based on minimum rank factor analysis. In each case, suitability of the data was determined by evidence of substantial correlations between items, statistically significant Bartlett’s tests, and Kaiser-Meyer-Olkin statistics above .70. In each case, the advised number of dimensions was one based on the 95th percentile of random percentage of variance. Also in each case, evidence of excessive kurtosis supported the use of polychoric correlations. Once the number of dimensions was determined, a Minimum Average Partial procedure with Promin rotation was run to assess model fit according to the overall percentage of variance explained: in this case, PICS = 58.48%, AMW = 43.29%, Pilot = 63.65%. Reliability analyses revealed Cronbach’s alphas [with 95% confidence intervals] for the PICS scale ranged from .87 [.81, .92] for the “creepiness” scale to .91 [.87, .95] for trustworthiness and .93 [.89, .96] for attractiveness. Cronbach’s alphas for the AMW scale ranged from .85 [.77, .91] for the “creepiness” scale to .87 [.80, .92] for trustworthiness and .96 [.94, .97] for attractiveness. Cronbach’s alphas for the Pilot scale ranged from .90 [.86, .94] for the “creepiness” scale to .93 [.89, .96] for trustworthiness and .96 [.94, .98] for attractiveness. Results of both factor and reliability analyses suggest that the 15 images in each group formed a unidimensional, coherent set.

### Pilot Study: Procedure and Results

Participants were 51 third-year undergraduates [82% women;  $M_{\text{age}} (SD) = 20.86 (1.08)$  years] seated in a classroom in front of a large projector screen displaying a white screen with a blue circle in the middle. First, participants completed a 15-item questionnaire pertaining to their personal experiences and perceptions of “creepiness” (see Appendix A). Then, participants were shown 40 slides of target facial images (all adult Caucasian males, displayed for 10 seconds each) and asked to evaluate each image for “creepiness” on a 7-point Likert-type scale from 1 (*not at all*) to 7 (*extremely*). Participants were explicitly instructed to follow their immediate “gut reaction” when judging each image so as to ensure that intuitive judgments were being made.

Frequency analysis indicated that 98% of participants reported having experienced a “creepy” encounter, with most (80%) reporting that situational factors influenced their judgments. For example, participants indicated that “creepy” encounters tended to occur in the “evening” (74%) or “late at night” (96%). Many (88%) mentioned public places such as bars, parks, on the street, or in malls as likely places for a “creepy” encounter. Participants’ definitions of “creepiness” revealed certain patterns or themes<sup>1</sup>, all revolving around the notion of “difference” or non-normative conduct. This “difference” tended to include behaviours deemed socially unacceptable (e.g., staring, making inappropriate comments, being unacceptably touchy, or invading another’s personal space), and odd physical appearance as indicated by the person’s dress or comportment. Participants indicated feeling scared, ner-

<sup>1</sup> Analysis of thematic content involved categorizing responses based on similar content (i.e., physical appearance, behaviour). The pattern that emerged was one of ‘difference’ or non-normative conduct. This was conducted by the second author and subsequently confirmed by the first author although formal interrater reliability analysis was not conducted.

vous, anxious, or worried (69%); awkward or uncomfortable (59%); vulnerable or violated (18%); alert or aware (8%) while in the presence of a “creepy” individual.

Participants unanimously agreed that behaviour was an important consideration in their “creepiness” evaluations, although the majority (80%) also believed that “creepiness” resided in the face. All participants reported feeling like they made judgments of “creepiness” in less than a minute (instantly = 41%, 10 seconds = 33%, 30 seconds = 21%, 60 seconds = 5%). Participants also reported relatively high levels of confidence in their judgments, with 24% claiming that they were “very accurate” at judging “creepiness” and 49% claiming to be “somewhat accurate.” Only 4% indicated some doubt about their ability to judge “creepiness.” Median “creepiness” ratings for the 40 slides of target facial images ranged from a high of 7.00 to a low of 2.00, with 62.4% of scores at or above 4 (neutral). The 15 images judged to be the “creepiest” (scoring  $\geq 5.00$  or approximately top  $\frac{1}{3}$ ) were included in Study 2.

### Study 1

Participants were 186 first-year undergraduates [76% women; 2 missing;  $M_{\text{age}} = 19.16$  (3.31) years] who completed a 12-item questionnaire pertaining to “creepiness” (see Appendix B), derived from responses to the pilot study questionnaire. Upon completion, students were invited to participate in a follow-up lab-based study. Responses for one participant were excluded due to incomplete data, leaving a final sample of 185.

When Study 1 participants were prompted to explain what a “creepy” person looked like, 43% mentioned hygiene (e.g., “man in 40s or 50s, skinny, greasy hair” and “dirty, greasy, unshaven man”). Another 35% mentioned specific facial or physical features (e.g., “skinny, dark features, not attractive” and “lanky and skinny, longer hair—can also be bigger with a beard”), and 8% of participants cited clothing (e.g., “someone dressed in a long coat, hood up, looking down”). Only 10% of people indicated that “creepiness” was indiscernible based on appearance but, instead, was a behavioural concept. Women (vs. men) were significantly more apt to cite hygiene as a factor in “creepiness,”  $\chi^2(4) = 15.41$ ,  $p < .004$ ,  $\phi = .27$  (medium effect size).

When asked for a more in-depth description of the mental image associated with a “creepy” person, 97% of participants (both men and women) indicated the person was male, with either a dishevelled (69%) or unremarkable outward appearance (22%). Most participants (51%) specified that they associated “creepiness” with an *ectomorphic* (linear) body type versus a *mesomorphic* (muscular; 24%) or *endomorph* (rounded; 23%) body type, or some combination (2%). The most commonly cited age range for “creepiness” was between 31 and 50 years (57%), followed by under 30 years (22%), above 50 years (13%), and any age (8%). Men and women did not differ in their perceptions of body type,  $\chi^2(2) = 3.64$ ,  $p = .30$ , nor age group,  $\chi^2(3) = 5.76$ ,  $p = .12$ .

The behaviours most often associated with a “creepy” person included the “loner” type as typified by being unusually quiet and staring (34%), following or lurking (15%), behaving abnormally (21%), or in a socially awkward, “sketchy” or suspicious way (20%), being overly talkative or touchy (5%), or acting invasively and speaking in an inappropriate manner (5%). Again, most participants indicated that they were making judgments of “creepi-

ness” instantly (72%) or within a few minutes (18%). The remaining 10% indicated that a longer period of time (e.g., two hours, many interactions over a span of days) was needed to evaluate “creepiness.” When asked how they would behave in the presence of a “creepy” individual, most (72%) said they would avoid or ignore the person; 14% said they would act normally until able to leave; and 14% said they would take some other form of action (e.g., “confront the individual”). Men and women did not differ in their perceptions of behaviour,  $\chi^2(5) = 7.31$ ,  $p = .19$ , nor time to render judgments,  $\chi^2(2) = 5.15$ ,  $p = .08$ .

Consistent with predictions, most (84%) participants, both men and women, agreed that “creepiness” resides in the face, with the majority associating “creepiness” with the eyes (80%) and teeth (54%). No gender differences were found for the identification of eyes,  $\chi^2(1) = 0.66$ ,  $p = .42$ , nor teeth,  $\chi^2(1) = 0.33$ ,  $p = .57$ . Other facial features identified were eyebrows (36%), lips (35%), jaw (21%), nose (18%), forehead (16%), chin (11%), cheeks (11%), and ears (5%). The three main features of “creepiness” in the eye region included the way the individual looked at you (e.g., staring or glaring; 54%); the physical structure of the eye (e.g., squinty, small, sunken; 35%); and particular eye movements (e.g., darting, shifty, wandering eyes; 10%). Regarding teeth, 85% of participants found unattractive teeth (e.g., “missing, crooked, dirty”) to be “creepy,” and 15% found particular expressions involving teeth (e.g., “smiling oddly”) to signify “creepiness.” Men and women did not differ in their reporting of facial features [eyes:  $\chi^2(2) = 3.93$ ,  $p = .14$ ; teeth:  $\chi^2(1) = 0.57$ ,  $p = .45$ ].

### Study 2

Study 2 included 42 participants [81% women;  $M_{\text{age}} = 19.45$  (3.24) years; 91% Euro-Canadian] derived from Study 1. Participants were seated in a classroom in front of a large projector screen displaying a white screen with a blue circle in the middle. Participants were provided with a copy of the ATI (Porter et al., 2008) and then directed to rate each of the 45 male facial images from 1 (*not at all*) to 7 (*extremely*) on degree of “creepiness,” attractiveness, and trustworthiness. Ratings were counterbalanced (7 to 1) for half of the participants.<sup>2</sup> Each slide was presented for 15 seconds<sup>3</sup>, followed by a mask for five seconds. The mask was a blank white screen with a blue circle in the middle, identical to the slide displayed at the beginning of the study. Slides were randomly presented and each slide was shown only once. Again, participants were instructed to follow their immediate “gut reaction” when

<sup>2</sup> 15 of the 42 participants used a reverse keyed ATI scale to rate the 3 traits trustworthiness, attractiveness, creepiness—following exposure to each target image. For these 15, reverse scoring was done so as to align the scores with the other 27 participants with high scores indicating more of a particular trait. When tested, significant differences were found for 4 of the 15 AMW (not PICS nor Pilot) creepiness (not trustworthy nor attractive) trait scores, whereby the creepiness scores for those 4 participants with a reversed ATI were significantly higher than the creepiness scores for those participants with a nonreversed ATI. The images (and  $p$  values) in these 4 cases were as follows: #11 (.02), #19 (.04), #35 (.01), and #45 (.03). Given that subsequent analyses were conducted for each image group separately, and that AMW creepiness scores were significantly lower than Pilot creepiness scores, this finding was not deemed to be problematic.

<sup>3</sup> We used 10 seconds in the pilot study so as to be consistent with Porter et al. (2008); however, because our study included an additional trait (creepiness), we opted to add more time so as to ensure that participants had ample time to view the image and to judge traits via the ATI.

judging. If a participant recognised a face, they were asked to alert the experimenter.

Descriptive statistics for the three image groups: PICS (neutral), AMW (untrustworthy), and Pilot (Creepy) for each of the three ATI trait rating variables—trustworthiness, attractiveness, and “creepiness”—were calculated. Median and InterQuartile Range (IQR) values are displayed in Table 1. Spearman rho correlations, with the Bonferroni corrected significance level set at  $p < .001$ , were conducted along with nonparametric bootstrapping (1000 samples) for an estimate of 95% confidence intervals. In three cases, the correlation was not significant at the 0.05 level but the confidence intervals indicated that the null hypothesis should not be accepted (i.e., interval did not contain zero). A significant negative correlation was found between “creepiness” and attractiveness for one group only,  $r_s(42) = -.32, p = .04, CI = -.59$  to  $-.05$  (PICS),  $r_s(42) = -.08, p = .64, CI = -.39$  to  $.28$  (AMW), and  $r_s(42) = -.27, p = .08, CI = -.55$  to  $.01$  (Pilot). Significant negative correlations were found between “creepiness” and trustworthiness for both the PICS,  $r_s(42) = -.39, p = .01, CI = -.63$  to  $-.12$ , and Pilot,  $r_s(42) = -.44, p = .004, CI = -.71$  to  $-.08$ , groups but not the AMW group,  $r_s(42) = -.31, p = .04, CI = -.59$  to  $.02$ . On the other hand, trustworthiness and attractiveness were significantly and positively correlated within all three groups,  $r_s(42) = .76, p = .000, CI = .59$  to  $.88$  (PICS),  $r_s(42) = .50, p = .001, CI = .22$  to  $.71$  (AMW), and  $r_s(42) = .69, p = .000, CI = .49$  to  $.82$  (Pilot), all with large effect sizes (Cohen, 1988). Squaring the correlation coefficients indicated that between 25% and 58% of the variance in trustworthiness was explained by attractiveness.

A series of Friedman tests (nonparametric equivalent of repeated measures analysis of variance) were conducted. There was a statistically significant difference in perceived trustworthiness depending on picture group. Post hoc analyses with Wilcoxon signed-ranks test and a Bonferroni corrected significance level ( $p < .017$ ) indicated significantly higher trustworthiness ratings for the PICS group than either the AMW or Pilot groups, and higher ratings for the AMW group than the Pilot group. Effect sizes ranged from small to medium. Similarly, there was a statistically significant difference in perceived attractiveness depending on picture group. Post hoc analyses indicated significantly higher attractiveness ratings for the PICS group than either the AMW or Pilot groups, and higher ratings for the AMW group than the Pilot group. All effect sizes were medium. Finally, there was a statistically significant difference in perceived creepiness depending on picture group. In this case, post hoc analyses showed significantly higher ratings of creepiness for the Pilot group than either of the other two groups, with the AMW ratings higher than the PICS and lower than the Pilot. All effect sizes were medium. See Table 1 and Figure 1.

### General Discussion

Results of the present study suggest that “creepiness” is a broadly understood construct, with almost all (98%) participants reporting having experienced a “creepy” encounter and all participants able to offer a description or definition of what was “creepy.” Definitions of “creepiness” tended to revolve around the theme of “differentness” as indicated by socially unacceptable or non-normative behaviours (e.g., staring, inappropriate comments,

invasion of personal space), and odd physical appearance as suggested by poor hygiene, dishevelment, and general unattractiveness.

Participants associated “creepiness” with men versus women, as was found in McAndrew and Koehnke’s (2016) study. This finding fits with men typically being physically larger and stronger than women and, therefore, more apt to pose a physical threat to others (Oosterhof & Todorov, 2008). The most commonly cited age range for a “creepy” individual was between 31 and 50 years. This finding diverges from the research suggesting that youthful individuals (i.e., between 20 and 30 years) have the greatest potential for violence, possibly because we typically are in peak physical condition during our late 20s and early 30s (Stillman et al., 2010). The present finding implies that participants were not basing their “creepiness” judgments on whether the individual necessarily posed a physical threat. It is also possible that the present sample of young adults viewed individuals in their 30s, 40s, and 50s as “old” and “different.”

Interestingly, the *ectomorphic* body type (vs. *endomorph*ic or *mesomorph*ic) was most commonly associated with “creepiness.” Unlike mesomorphy, ectomorphy, with its prominent features of linearity and fragility (vs. muscularity), is not usually associated with high threat potential (Ellis & Walsh, 2000). Indeed, the ectomorphic body type is more apt to be described as *cerebrotonic*, inclined to prefer isolation and solitude. On the other hand, they have also been described as being tense and anxious, introverted and secretive, inclined toward emotional restraint and social inhibition (Kamlesh, 2011; Sheldon & Stevens, 1942; Sheldon, Stevens, & Tucker, 1940). Interestingly, in two studies, Butler et al. (1993) found that, whereas the mesomorphic body type was viewed positively and the endomorphic body type was viewed negatively, the ectomorphic body type was more ambiguous—viewed favourably in one study and unfavourably in another.

In line with Hassin and Trope’s (2000) findings, participants reported gathering information from the face when making judgments of “creepiness.” In particular, participants reported preferential attention to the eye and teeth regions. Finding the eye to be an important reference point was expected. Porter et al. (2008) suggest that the amygdala—the brain structure responsible for assessing emotional expressions (e.g., fear) and key to intuitive judgments of trustworthiness—guides observers to automatically attend to the eye region when first viewing a face. Moreover, research demonstrates that the eye region is important for effective communication and recognition of emotional and motivational information (Adams & Kleck, 2005; Calvo & Fernández-Martín, 2013). Present participants indicated that, although abnormal eye movements (e.g., darting or wandering) and physically unappealing eyes (e.g., small, sunken, dark) increased an individual’s “creepiness,” it was the way the person looked at the observer (e.g., glaring, staring) that was most disconcerting and most apt to lead to a judgment of “creepiness.”

Preferential attention to the teeth region fits with Cheetham et al.’s findings with regard to preferential processing of eyes and mouth with ambiguous (vs. unambiguous) avatar faces. Present participants reported that the role of teeth cleanliness in facial expressions was key to “creepiness” judgments. Teeth that were dirty or unattractive (e.g., missing, crooked, broken), or part of unusual smiles, were more apt to be associated with “creepiness.” This attention to teeth might be linked to the increasing popularity

Table 1  
Descriptive Statistics for Study 2 Image Groups

Rating variable	PICS (Neutral) Median [IQR]	AMW (Untrustworthy) Median [IQR]	PILOT (“Creepy”) Median [IQR]	Friedman $\chi^2(2, 40)$	Wilcoxon Z, p	Effect Size $r = Z/\sqrt{N}$
Trustworthiness [Range = 0–7] ±95% CI	3.83 [3.12–4.22]	3.53 [2.98–4.15]	2.00 [1.53–2.82]	48.18*	PICS > AMW Z = -1.31, p < .001	.16
	3.53–4.07	3.23–3.93	1.73–2.57		PICS > PILOT Z = -4.79, p < .001	.43
					AMW > PILOT Z = -5.16, p < .001	.46
Attractiveness [Range = 0–7] ±95% CI	3.43 [2.73–4.05]	2.40 [1.85–3.05]	1.67 [1.32–2.12]	55.70*	PICS > AMW Z = -4.48, p < .001	.40
	3.13–3.93	2.23–2.67	1.43–1.80		PICS > PILOT Z = -4.82, p < .001	.43
					AMW > PILOT Z = -4.95, p < .001	.44
Creepiness [Range = 0–7] ±95% CI	3.27 [2.52–3.95]	3.60 [2.98–4.20]	5.17 [4.50–5.60]	55.46*	PICS < AMW Z = -3.09, p < .003	.35
	2.73–3.60	3.30–3.83	4.90–5.47		PICS < PILOT Z = -5.36, p < .001	.48
					AMW < PILOT Z = -5.17, p < .001	.46

Note. PICS = University of Sterling Psychological Image Collection (neutral); AMW = America’s Most Wanted (untrustworthy); Pilot = Pilot Study (creepy); IQR = InterQuartile Range;  $r = Z/\sqrt{N}$  (number of observations vs. cases); ±95% Confidence Intervals (CI).  
\*  $p < .001$ .

of orthodontic enhancements. This trend may be contributing to a higher expectation for perfection in people’s teeth leading to dirty or visually unattractive teeth being seen as violating social norms. Moreover, Calvo and Fernández-Martín (2013) found that an individual’s perception of emotional expression in the eye region was constrained by the emotional expression of the mouth region. Other research indicates that face-scanning behaviour is an automatic process involving holistic interpretation of facial features (Richler, Cheung, & Gauthier, 2011), suggesting that the human face is perceived and represented as a unitary feature rather than separate parts (e.g., eyes, mouth, nose).

Interestingly, the most highly analysed facial features during “creepiness” evaluations (that is, eyes, teeth, and, to a lesser extent, eyebrows and lips) are all key features for emotion transmission. Researchers (e.g., Stillman et al., 2010) have found certain facial

features (e.g., heavy brow, high masculinity, muscularity) to be associated with increased judgments of violence. In the present set of studies, the facial regions typically associated with high levels of testosterone and masculinity (i.e., prominent brow ridge and nose, protruding chin; see Pivonkova, Rubesova, Lindova, & Havlicek, 2011), were reported less often. The fact that facial areas not typically related to physical strength were more often associated with “creepiness” than those reliably linked to threat judgments, further suggests that there are different processes at work when one is evaluating “creepiness” versus threat or trustworthiness. It may be that “creepiness” is more an emotionally based versus physically based judgment; reliant on emotional information gathered from certain key facial features of an individual.

All participants in the present studies reported feeling like they made their decisions of “creepiness” in less than a minute. Whereas this seems to suggest an intuitive (vs. more deliberate or analytical) response, the methodology of the current study precludes drawing such a conclusion. Dual-systems models of decision-making and attitude formation contend that intuitive responding occurs rapidly (within first 39 ms; Bar et al., 2006). The design of the present study, however, allowed only for participants’ self-reporting of how quickly they made their judgments. Research shows that such controlled responding (e.g., to items on a questionnaire) can be overridden by logical processing (i.e., analytical system) (e.g., Strack & Deutsch, 2004). Participants’ confidence in their judgments was quite high with most (73%) assuming they were quite accurate. Research offers cause for doubt. Kassin (1985), for example, found no significant relationship between confidence and accuracy in eyewitness identification, with participants reporting the same level of certainty in their judgments, whether they accurately identified the suspect or not. More recently, Porter, ten Brinke, and Gustaw (2010) found that

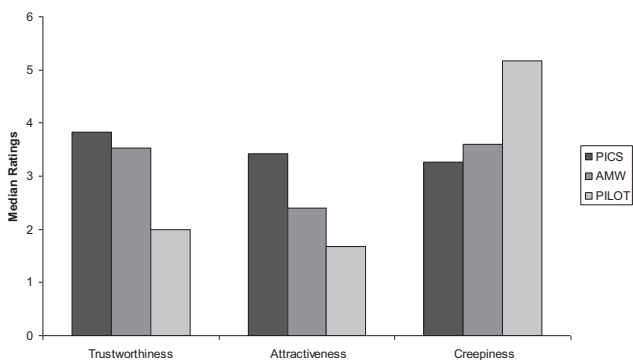


Figure 1. Median group ratings for each variable of interest. PICS = University of Sterling Psychological Image Collection (neutral); AMW = America’s Most Wanted (untrustworthy); Pilot = Pilot Study (creepy).

when individuals were told to evaluate the criminal culpability of untrustworthy (vs. trustworthy) faces, they required less evidence to more confidently render a guilty verdict.

In describing their behaviours when encountering a “creepy” individual, most participants indicated that they would avoid or ignore the person, while the remainder would either act normally until they were able to leave or take another form of action, such as confronting the individual or socially embarrassing them. These responses resemble “fight-or-flight” responses similar to those found by *Szczurek et al. (2012)*. A strong fight response would be expected if the person was seen as an immediate physical threat. Instead, we see high levels of avoidance (flight), indicating that the person is perceived to be undesirable but not necessarily physically threatening to the observer. This aligns with *McAndrew and Koehnke’s (2016)* suggestion that “we do not necessarily assume ill intentions from people who are creepy, although we may still worry that they are dangerous” (p. 16).

“Creepiness” correlated positively with untrustworthiness for two of the three picture groups, and “creepy” faces were rated as the least trustworthy. Being judged untrustworthy can have deleterious ramifications, so it will be important for future research to establish whether the relationship is ecologically valid. In addition, given that some of the least trustworthy individuals in our society (i.e., psychopaths) tend to be perceived as charming, intelligent, and attractive (i.e., not “creepy”; *Richell et al., 2005*), the relationship between these two constructs merits further investigation. The present study found support for the putative association between physical attractiveness and judgments of trustworthiness (*Porter et al., 2009*). Physical attractiveness correlated positively and strongly with trustworthiness ratings. This fits with the stereotype that physically attractive people possess other positive attributes (e.g., intelligence, kindness), which tends to garner them preferential treatment and tangible benefits. Support was found for a negative correlation between “creepiness” and attractiveness with one of the picture groups. If the stereotype regarding physical attractiveness operates on a continuum from attractive to unattractive, it is possible that individuals perceived as “creepy” might be ascribed few redeeming character traits. This negative perception could lead to the self-fulfilling prophecy, whereby “creepy” people get ostracized or accosted, leading them to avoid social interactions and appear more like “loners.” Indeed, present results show that, after labelling someone as “creepy,” observers are apt to limit or avoid interaction.

Only one gender difference was found, whereby women were significantly more apt to cite hygiene as a factor in “creepiness” than men. Generally speaking, women tend to be more concerned with matters of hygiene than men (e.g., *Haidt, McCauley, & Rozin, 1994*). Because sample sizes of the Pilot Study and Study 2 did not permit the testing of gender differences, questions remain about the role of gender in judgments of, and responses to, perceived “creepiness.” Of course, other dispositional factors also may play a role but were not measured in this study. For example, people may be more (or less) dispositionally inclined to be intolerant of ambiguity or intolerant of uncertainty, two related but distinct constructs. It has been suggested that intolerance of ambiguity refers to the interpretation of an ambiguous stimulus in the “here and now,” while intolerance of uncertainty (*Carleton, 2012*) refers to the interpretation of a future event (*Grenier, Barrette, & LaDouceur, 2005*). This proposition has not been tested empiri-

cally, and future research would benefit by the inclusion of specific measures of each (e.g., the Intolerance of Uncertainty Scale; *Carleton, Norton, & Asmundson, 2007*). It seems likely that causal links exist between perceptions of “creepiness” and intolerance of ambiguity, intolerance of uncertainty, and/or fear of the unknown. It is noteworthy that participants’ creepy encounters seemed to involve situations with several unknowns, which fits well with extant research in the area and aligns directly with theory (see *Carleton, 2016a, 2016b*). Future research could manipulate unknown elements of situations or individual’s presentation to enhance or diminish perceptions of creepiness.

The present findings carry potential implications for the real world. For example, if the label of “creepiness” is too hastily applied to people who violate social norms, versus criminal laws, negative consequences could ensue. Once a person is labelled “creepy,” others may view them as untrustworthy, deservedly or not. Some of the features of “creepiness” (e.g., unusual eye contact, body language, inappropriate conversation, dishevelment) are commonly associated with mental illness and may lead to stigmatizing attitudes by lay people and health care professionals alike (*Corrigan, 2000*). The way participants claimed to interact with “creepy” people (e.g., avoiding or ignoring, confronting) somewhat mirrors our interactions with people who are homeless or have been diagnosed with mental illness (e.g., social distancing; *Alexander & Link, 2003*). Perhaps, also like people who are homeless or have been diagnosed with mental illness, “creepy” people may be seen to pose a greater risk to others (e.g., violence) than they actually do (e.g., *Elbogen & Johnson, 2009*). More research is clearly needed to more fully comprehend the implications of judging others to be “creepy.”

Results must be considered in light of certain limitations. First, this was a single-source, single-method study of people’s intuitive judgments of “creepiness”. Consequently, we cannot draw conclusions as to whether people’s perceptions of “creepiness” align with their behaviour or reality. This remains a question for future research. Second, the sample size of Study 2 did not ensure adequate power for detecting all predicted relations, such as those between “creepiness” and attractiveness. Further research with more participants is needed. Third, participants in this study formed judgments of “creepiness” based on a single, static image of an individual. A follow-up study utilizing thin slices of behaviours (e.g., extremely brief video excerpts of social interactions) could help determine exactly how people make assessments of “creepiness” when more complex and dynamic information is available. Future research could employ an eye tracker, which would allow researchers to analyse which area of the face participants are attending to most. Future research could also include more rigorous analysis of thematic content of the open-ended questions. Finally, this study was conducted in a Westernized culture with a relatively young sample of largely women participants. Consequently, these results may not be generalizable to other cultures, age groups, or genders. Whereas there is some research to suggest cross-cultural similarities in how we perceive qualities from others’ faces, it appears that cultures may differ in how we weight and value these qualities (*Rule et al., 2010*). Future research on “creepiness” would benefit from the use of more diverse populations.

In conclusion, judgments of “creepiness” seem to be based on brief assessments of an individual’s physical appearance and in-

scrutable behaviours, behaviours that may violate social norms. Violations of social norms can seem unpredictable and introduce ambiguity of potential threat—an unknowability or “creepiness.” The label of “creepiness” may stigmatize unattractive and/or unusual (e.g., marginalized) individuals. Individuals deemed “creepy” are more apt to be considered untrustworthy, and avoided, although the actual risk they pose is not known. More research on this little understood construct could inform how we judge risk posed by others—the mysterious and the strangely familiar.

## Résumé

La présente recherche porte sur « l'effet dérangeant » que peuvent susciter certaines personnes. Il s'agit d'un construit souvent mentionné, mais bien peu compris. Dans l'Étude 1, on a fourni à 185 étudiants du premier cycle (74 % de femmes) des données qualitatives sur les caractéristiques qui définissent l'« effet dérangeant ». On a pu constater que cet effet provient du regard et qu'il est associé aux hommes au physique ectomorphe, à l'allure peu soignée et âgés de 31 à 50 ans. Dans l'Étude 2, on a demandé à 48 élèves (71 % de femmes) d'évaluer, au moyen d'une échelle de type Likert à 7 points, des photos en noir et blanc d'hommes blancs quant à leur « effet dérangeant », à leur fiabilité et à leur attrait. Les photos comprenaient 15 images neutres tirées de la Sterling University Psychological Image Collection, 15 du site Web des criminels les plus recherchés aux É.-U., et 15 autres d'hommes jugés les plus « dérangeants » dans une étude pilote. Les visages « dérangeants » ont été jugés de beaucoup moins fiables, moins attrayants et plus inquiétants que ceux des 2 autres groupes. Il y a une corrélation significative entre fiabilité et attrait parmi les 3 groupes, l'écart de 25 % à 58 % dans l'évaluation de la fiabilité s'expliquant par l'attrait. Les résultats permettent de discuter de la façon dont se créent les jugements sur l'« effet dérangeant », en quoi celui-ci est peut-être moins lié au danger physique qu'à l'ambiguïté de la menace de rupture ou d'écart par rapport aux normes sociales, ainsi que les répercussions sur des groupes stigmatisés, comme les gens souffrant d'une maladie mentale.

*Mots-clés* : effet dérangeant, analyse des risques, ambiguïté, maladie mentale, stigmaté.

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(Appendices follow)

## Appendix A

### Pilot Study Questionnaire

1. Sex: Male\_\_\_\_ Female\_\_\_\_
2. Age: \_\_\_\_\_
3. Have you ever had an encounter with a "creepy" person? Yes\_\_\_\_ No\_\_\_\_
4. If "yes," please provide a brief description of an encounter with a "creepy" person.  
\_\_\_\_\_
5. How would you define "creepy"?  
\_\_\_\_\_
6. Typically, how long does it take you to decide if someone is "creepy"?
  - Instantly
  - 10 seconds
  - 30 seconds
  - 60 seconds
  - Other (please specify) \_\_\_\_\_
7. How accurate are you at judging whether someone is "creepy"?
  - Very accurate
  - Somewhat accurate
  - Neither accurate or inaccurate
  - Somewhat inaccurate
  - Very inaccurate
8. What do you think makes someone "creepy"?  
\_\_\_\_\_
9. What does a "creepy" person look like?  
\_\_\_\_\_
10. Can you judge whether someone is "creepy" by looking at their face? Yes \_\_\_\_ No\_\_\_\_
11. If "yes", what facial features are most important when judging "creepiness"?  
\_\_\_\_\_
12. Can you judge whether someone is creepy by their behaviour? Yes\_\_\_\_ No\_\_\_\_
13. If "yes", what kind of behaviour is considered creepy?  
\_\_\_\_\_
14. How does a creepy encounter make you feel?  
\_\_\_\_\_
15. Where would you most likely encounter a creepy person?

*(Appendices continues)*

## Appendix B

### Study One Questionnaire

1. Sex. Male\_\_\_ Female\_\_\_ Age: \_\_\_\_\_

**Please Read The Following Excerpt and Answer the Following Questions:**

You are eating lunch when a friend comes up to your table, and they explain to you that they have just encountered a very “creepy” person in the student union building. You ask them to explain what they mean by “creepy.” What was the person doing? What did they look like? What was it about the person that was “creepy”? Your friend replies, “You know, she/he was just creepy.”

2. When you think of a “creepy” person, what comes to mind? ‘

\_\_\_\_\_

3. What does your mental image of a “creepy” person look like?

\_\_\_\_\_

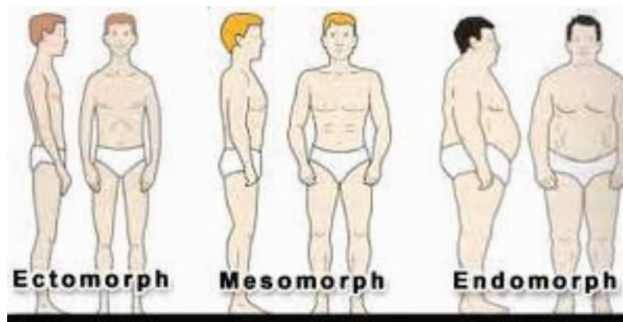
4. What sex is the “creepy” person in your mental image?  Male  Female

5. What age is the “creepy” person” in your mental image? \_\_\_\_\_

6. How would you describe his or her outward appearance?

- Dishevelled/untidy  
 Average/unremarkable  
 Neat/well groomed

7. How would you describe his or her body type? (circle most appropriate choice)



8. Does “creepiness” reside in the face? In other words, is there something about a person’s face that indicates “creepiness”?  
 Yes  No

9. If Yes, what facial features do you tend to associate with “creepiness”? (check all that apply and explain what it is about that facial feature that indicates “creepiness”)

- Eyes \_\_\_\_\_  
 Eyebrows \_\_\_\_\_  
 Nose \_\_\_\_\_  
 Chin \_\_\_\_\_  
 Teeth \_\_\_\_\_  
 Lips \_\_\_\_\_  
 Ears \_\_\_\_\_  
 Forehead \_\_\_\_\_  
 Jaw \_\_\_\_\_  
 Cheeks \_\_\_\_\_

(Appendices continues)

10. How does a “creepy” person act?

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11. How long does it take you to decide whether someone is creepy or not?

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12. How do you behave toward someone who is creepy?

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## Appendix C

### Study 2 Questionnaire

*Assessment of Traits Inventory (ATI; Porter et al., 2008)*

Picture 1	<i>Not at all</i>						<i>Extremely</i>
Trustworthiness	1	2	3	4	5	6	7
Attractiveness	1	2	3	4	5	6	7
Creepiness	1	2	3	4	5	6	7

*(Appendix continues)*

Received May 22, 2015  
 Revision received October 23, 2016  
 Accepted November 8, 2016 ■