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Attitudes without Objects: Evidence for a Dispositional Attitude, its Measurement, and its Consequences

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Abstract

We hypothesized that individuals may differ in the dispositional tendency to have positive versus negative attitudes, a trait termed the Dispositional Attitude. Across four studies, we developed a 16-item Dispositional Attitude Measure (DAM) and investigated its internal consistency, test-retest reliability, factor structure, convergent validity, discriminant validity, and predictive validity. DAM scores were (a) positively correlated with positive affect traits, curiosity-related traits, and individual pre-existing attitudes, (b) negatively correlated with negative affect traits, and (c) uncorrelated with theoretically unrelated traits. Dispositional attitudes also significantly predicted the valence of novel attitudes while controlling for theoretically relevant traits (such as the big-five and optimism). The dispositional attitude construct represents a new perspective in which attitudes are not simply a function of the properties of the stimuli under consideration, but are also a function of the properties of the evaluator. We discuss the intriguing implications of dispositional attitudes for many areas of research, including attitude formation, persuasion, and behavior prediction.

Keywords

affect; attitude; disposition; personality; valence

If you want to know someone's feelings toward health care, is it useful to know whether they like architecture? At first glance, the answer would appear to be *no*. After all, health care and architecture are independent stimuli with unique sets of properties, so attitudes toward these objects should also be independent because they will be based on unrelated considerations (Albarracin & Vargas, 2010; Eagly & Chaiken, 2007; Fazio, 2007; Schwarz, 2007). However, even when considering objects as distinct as health care and architecture, there is still one critical factor that an individual's attitudes will have in common: the individual who formed the attitudes. If individuals differ in the general tendency to like versus dislike objects, an intriguing possibility is that attitudes toward independent objects may actually be related. So someone's attitude toward architecture may in fact tell us something about their attitude toward health care because both attitudes would be biased by a disposition to like or dislike stimuli.

The present research investigated whether individuals have a tendency to generally like or dislike stimuli. We will refer to this construct as the *dispositional attitude*, defined as

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[1]We use the term “prediction” to refer to the statistical prediction of one variable from another, not to suggest a causal model in which one variable influences another.

systematic variation in attitude valence as a function of individuals (i.e., a main effect of individual on attitude valence). This tendency should be measurable by having individuals evaluate a large number of stimuli and then averaging across attitude ratings. Given a sufficiently large pool of appropriately selected stimuli, the influence of positive and negative stimulus properties will tend to cancel out, and the remaining variance between individuals will index a tendency to like or dislike stimuli that is independent of stimulus-specific reactions. Dispositional attitudes should be related to other traits that predispose individuals to experience positive or negative affect (e.g., extraversion, optimism), and individuals with more positive dispositional attitudes should tend to form and hold more positive attitudes toward specific stimuli. In the present paper, we discuss the antecedents, correlates, and consequences of dispositional attitudes, develop a dispositional attitude measure, test predictions about the relation of dispositional attitudes to other traits, and examine the dispositional attitude's role in attitude formation and prediction.

Dispositional Attitudes: Origins, Associations, and Relations to Specific Attitudes

Origins of dispositional attitudes

It is reasonable to expect individuals to differ in the tendency to like versus dislike stimuli due to a variety of personality, cognitive, and social factors. In terms of personality factors, tendencies to experience positive and negative affect are robust personality differences (Cacioppo & Gardner, 1999; Costa & McCrae, 1980; Derryberry & Rothbart, 1988; Diener & Larsen, 1984; Feldman, 1995; Gray, 1972, 1990; Izard, 2007; Mesquita, 2001; Rosenthal, 1995). If one affect were more chronically accessible or fluent than the other for an individual, the more accessible/fluent affect would have a higher probability of being associated with any encountered stimulus, consequently biasing the individual's attitudes in the direction of the more accessible affect. In terms of cognitive factors, individuals may rely on evaluative routines that become chronic and bias the evaluations of many stimuli. For example, if individuals tend to form positive (negative) expectations before encountering stimuli, those expectations could serve as evaluative anchors or primes leading to the formation of generally positive (negative) attitudes. In terms of social factors, cultures and peer groups may place normative pressure on individuals to express positive or negative attitudes. For example, the adage If you don't have anything nice to say, don't say anything at all seems to normatively discourage the formation and expression of negative attitudes. It is easy to imagine how such personality, cognitive, and social factors could act on different individuals with varying amounts of strength, thus leading to variation in the tendency to generally like or dislike stimuli. In other words, it is reasonable to expect that attitudes toward unrelated stimuli will be positively related to one another because they were likely influenced by a common set of factors, and therefore it is reasonable to expect that dispositional attitudes exist.

Associations of dispositional attitudes with known personality traits

Associations with affectivity—Dispositional attitudes are a form of affectivity and should therefore be related to other traits tapping affect – specifically, dispositional attitudes should positively correlate with positive affect traits and negatively correlate with negative affect traits. However, dispositional attitudes specifically concern affect experienced in relation to stimuli, so they should still be distinct from other affective traits that focus on broad personality syndromes (e.g., extraversion, promotion focus) or highly specific topics (e.g., self-esteem). These predictions can be tested by measuring dispositional attitudes along with traits concerning positive affect (e.g., extraversion, agreeableness, trait positive affect, optimism, self-esteem, life satisfaction, behavioral activation, and promotion focus)

and negative affect (e.g., neuroticism, trait negative affect, behavioral inhibition, and prevention focus).

Associations with curiosity—Positive dispositional attitudes may predispose people to have favorable expectations about the unknown, and dispositional attitudes may therefore be related to an open, curious approach to objects and experiences. These predictions can be tested by measuring dispositional attitudes along with openness (wide-ranging interests and preference for new, creative ideas; John, Naumann, & Soto, 2008), variety seeking (motivation for avoiding the routine; Goldberg et al., 2006), curiosity (a value orientation concerned with broad interests; Peterson & Seligman, 2004), and inquisitiveness (interest in a wide-variety of stimuli and experiences; Goldberg et al., 2006). Although each of these traits is associated with positive attitudes toward wide-ranging stimuli, they all include features not shared with dispositional attitudes, such as beliefs about, preferences for, and motivations to seek out novel, exciting, and varied stimuli. Therefore, dispositional attitudes should positively correlate with curiosity-related traits, but they should also be distinct from them.

Associations with previously identified individual differences relevant to attitudes—Although a number of attitude-related individual differences have been identified, they primarily describe whether someone will form an attitude (need for evaluation, Jarvis & Petty, 1996) or what types of information processing strategies individuals will use to evaluate stimuli (e.g., need for cognition, Cacioppo & Petty, 1982; need for personal structure, Neuberg & Newsom, 1993; need for closure, Webster & Kruglanski, 1994). Consequently, these existing constructs either (a) do not make predictions about the valence of specific attitudes (e.g., need for evaluation), or (b) make interactive predictions for individuals and situations concerning attitude valence (e.g., high need for cognition would predict increased positive attitudes when an attitude-object is accompanied by strong arguments for liking, but increased negative attitudes when an attitude-object is accompanied by strong arguments for disliking). In contrast, dispositional attitudes imply a main effect of the individual on attitude valence, such that an individual with a positive (negative) dispositional attitude will tend to like (dislike) all stimuli more than other individuals, regardless of what specific stimuli are considered. Although dispositional attitudes are theoretically distinct from these existing constructs, chronic reliance on evaluative routines could potentially lead to systematic differences in the valence of an individual's attitudes. We therefore did not have strong predictions for how dispositional attitudes would be related to these attitudinal constructs, but instead viewed these associations as an open-ended empirical question.

Lack of associations with theoretically unrelated constructs—Although dispositional attitudes should be related to traits concerning affectivity and curiosity, they should be unrelated to other traits. Thus, discriminant validity (Campbell & Fiske, 1959) can be estimated by measuring dispositional attitudes along with such traits as conscientiousness, attachment style, and imagination. Conscientiousness should be unrelated to dispositional attitudes because it primarily concerns dutifulness and goal-directed behavior (Roberts, Chernyshenko, Stark, & Goldberg, 2005; Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). Similarly, there is no *a priori* reason to believe that the attachment dimensions of avoidance and anxiety should be related to a general tendency to like versus dislike stimuli (Fraley, Heffernan, Vicary, & Brumbaugh, 2011; Heffernan, Fraley, Vicary, & Brumbaugh, 2012). Finally, imagination is a facet of the big-five openness trait that measures the tendency to engage in imaginative thought (e.g., “I have a vivid imagination”, “I spend time reflecting on things”; Goldberg et al., 2006). Although we predicted that the overall trait of openness would be related to dispositional attitudes, we

predicted that this association would be unshared by the specific facet of imagination, which does not concern affectivity or curiosity.

Relating dispositional attitudes and novel attitudes: Individuals with a disposition to like (dislike) stimuli should be more likely to favorably (unfavorably) evaluate any given stimulus, leading to a correlation among attitudes toward ostensibly unrelated stimuli. This pattern should be surprising to the extent that prevailing views of attitude formation rely on stimulus-specific judgments as the bases of attitudes and do not emphasize dispositional tendencies that would consistently yield positive or negative attitudes (Ajzen & Fishbein, 2005; Albarracin & Vargas, 2010; Fishbein, 1963; Rosenberg, 1956; Walther et al., 2011; Wyer, 1974). Some attitude theories do incorporate personality as a distal influence on specific attitudes, such that personality may bias stimulus-specific beliefs and thus have an indirect relation with specific attitudes (e.g., Ajzen & Fishbein, 2005). However, dispositional attitudes assume non-belief-mediated intercorrelations among attitudes toward unrelated stimuli due to the operation of similar (within-person) mechanisms that operate during the formation of an individual's attitudes.

Overview of the Present Research

In the present research, we developed a measure of dispositional attitudes and examined the measure's convergent, discriminant, and predictive validity. In Studies 1a-1d, we created a 16-item scale to measure dispositional attitudes. We then explored construct validity in relation to affective traits (Study 2), curiosity-related traits (Study 3), previously identified attitude-relevant traits (Study 3), the big-five facets (Study 4), and theoretically unrelated traits (Studies 2-4). Dispositional attitudes should be positively related to traits concerning positive affect, negatively related to traits concerning negative affect, positively related to traits concerning curiosity, and unrelated to other traits. Across Studies 2-4, we also examined predictive validity by exploring whether dispositional attitudes could be used to predict novel attitudes while controlling for other traits. If so, this would demonstrate that the dispositional attitude is an important and useful construct for attitudes research.

Studies 1a – 1d: Scale Construction

Dispositional attitudes should be measurable by having individuals evaluate a wide range of stimuli and then averaging across all evaluations for each individual. Several considerations are in order for developing this measure. First, the measure must include enough stimuli so that it is not heavily influenced by idiosyncratic reactions to specific stimuli. Second, the stimuli on the scale should have relatively independent properties; otherwise the scale could be strongly influenced by a person-level source of variance other than dispositional attitudes. Finally, because we want to measure an effect related to all attitudes, the scale should include a variety of both negative and positive attitude-objects.

With these considerations in mind, we constructed a scale using the following steps. In Study 1a, we created a 100-item scale that included an even distribution of positive and negative items because we hypothesized that 100 items would be a sufficiently large item pool. In Study 1b, we examined the factor structure of this 100-item measure for evidence of the existence of the dispositional attitude construct, and we also shortened the scale length. In Study 1c, we cross-validated the exploratory results from Study 1b using an independent sample. Finally, in Study 1d, we examined the stability of dispositional attitudes using a test-retest reliability design. The final Dispositional Attitude Measure (DAM) includes 16 items and is highly reliable (see Appendix A for the full measure).

Study 1a: Creating an Initial 100-Item Scale

Fifty participants reported their attitudes toward 200 attitude-objects. From these ratings we selected 100 stimuli that were uniformly distributed from negative to positive.

Participants—Participants ($N = 50$) were recruited online using Amazon's Mechanical Turk (MTurk) website (for a discussion of MTurk use in psychological data collection, see Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Participants were paid $0.10 to complete the study. The age of respondents ranged from 18 to 62 years ($M = 37.52$, $SD = 13.00$). In this sample, 68% of respondents were female, 42% had a bachelor's degree or higher, and the modal income category was $37,500-$49,999. Due to a programming error, information about race/ethnicity was not recorded.

Procedure—Using scales from 1 (*extremely unfavorable*) to 7 (*extremely favorable*), participants evaluated 200 stimuli that had been carefully selected to include items that varied in valence from very negative to very positive and that represented a variety of domains.

Item selection—Based on ratings of the 200 stimuli, we excluded items with non-normal distributions. This criterion led us to exclude items with average ratings that were extremely negative (*Mean* < 2.00) or positive (*Mean* > 6.00). These exclusions left us with 148 items, of which we randomly selected 25 within each of the following ranges: 2-2.99; 3-3.99; 4-4.99; 5-5.99. These 100 items can be found in Table 1, and in the following studies, scale items were presented in alphabetical order. The scale is scored by averaging across all 100 items. For this sample, the mean score was 4.41 ($SD = 0.69$) and Cronbach's $\alpha = .95$ (the average item-total correlation was .40, with a range from .08 – .58).

Study 1b: Evidence for the Dispositional Attitude Construct and the Creation of a Shorter Scale

If individuals have an overall tendency to like versus dislike stimuli in general, then a principle components analysis (PCA) of responses to the 100-item scale should produce a factor on which almost all items load positively. Individuals with higher scores on this factor would tend to rate all items more positively than individuals with lower scores, and vice-versa. Note that such a factor would also be consistent with a response bias such as acquiescence, and therefore the existence of such a factor is a necessary but not sufficient condition for the existence of dispositional attitudes (we rule out potential response bias in Studies 2-4, in which we examined construct validity and introduced reverse-scored items). Additionally, component scores from the PCA can be used to identify the best items to include in a shorter version of the scale. Therefore, we had an independent sample complete the 100-item scale, conducted a PCA, and used the results to create a shorter scale.

Participants and procedure—Undergraduates at the University of Illinois ($N = 571$) completed the 100-item scale and a demographic form for partial course credit. The age of respondents ranged from 18 to 40 years ($M = 19.55$, $SD = 1.99$). The sample was 63% female. The sample was 67% Caucasian, 14% Asian, 6% Hispanic, and 13% other.

PCA and evidence for the dispositional attitude construct—We conducted a PCA on ratings of all 100 attitude-objects using mean-imputation for missing item responses. This analysis produced 31 factors with eigenvalues greater than one. Our primary interest was discovering whether most items loaded positively on a single factor, because such a factor would indicate that participants' responses were influenced by an overall tendency to like versus dislike stimuli. The first principle component conformed to this pattern, and of the 100 items, 92 loaded positively on this component, with an average component score of .21

(*SD* = .15) (see Table 1). Therefore, most attitudes were associated with an overall tendency to like versus dislike stimuli, and this was true even for important and consequential attitudes, including attitudes toward abortion, capitalism, the current president of the United States (Barack Obama), exercising, taxes, and vegetarianism.

The creation of a shorter scale—To examine whether a scale with fewer than 100 items could provide a reliable estimate of dispositional attitudes, we created scales that ranged in length from 100 items to five items in increments of five. Each scale of length k consisted of the k items with the highest component scores from the PCA. For each scale length, we calculated Cronbach's alpha and split-half reliability in which the halves were the average of the odd versus even numbered items. As can be seen in Table 2, the scale could be shortened to at least 20 items without loss of reliability. As mentioned, an additional goal is that the final scale should include a roughly equal number of negative and positive items. Looking again at Table 2, it is clear that the 20-item scale came close to this ideal, but had an excess of very negative items (a rating of 2-2.99). Therefore, we omitted the four very negative items with the lowest component scores, which left us with a 16-item scale that contained 3 very negative, 5 slightly negative, 5 slightly positive, and 3 very positive items. For this sample, the 16-item scale mean was 3.77 (*SD* = .73), alpha = .77, and the odd-even split-half reliability = .79. Based on these analyses, it appears that the 16-item scale includes a sufficient number of items to reliably measure dispositional attitudes.

Study 1c: Cross-validation

In Study 1b, we created the 16-item scale in an exploratory manner, selecting items based on the observed component scores from a single sample. Consequently, the results of Study 1b may have capitalized on sampling error. We therefore collected an independent sample to examine whether the results would replicate. Specifically, we calculated reliability estimates, and we also fit a confirmatory factor model to examine whether a unidimensional model fit the data.

Participants and procedure—MTurk users (N = 750) completed the 16-item scale and a demographic form for $0.20. The age of respondents ranged from 18 to 67 years (M = 29.64, SD = 9.32). In this sample, 44% of respondents were female, 68% had a bachelor's degree or higher, and the modal income category was $0-$24,999. The sample was 47% Indian, 28% Caucasian, 20% Non-Indian Asian, and 5% other.

Results and discussion—The reliability results replicated, and the 16-item scale had α = .78 and split-half reliability = .83. Next, we conducted a confirmatory factor analysis to examine whether a unidimensional model fit the data. Rather than using single items as indicators, we used four item parcels that each contained four items because the latent construct of interest is an overall tendency to like versus dislike stimuli in general, whereas each individual item represents a tendency to like versus dislike a specific stimulus. In contrast, item parcels created by averaging together individual items represent a tendency to like versus dislike stimuli aggregated across unrelated stimuli, which is exactly what the latent construct represents. When item parcels are more directly related to the latent construct of interest, their use is preferred over modeling individual items (Little, Cunningham, Shahar, & Widaman, 2002). We created the item parcels by averaging together every fourth item (Parcel 1: Architecture, Cold Showers, Politics, Soccer; Parcel 2: Bicycles, Doing Crossword Puzzles, Public Speaking, Statistics; Parcel 3: Camping, Japan, Receiving Criticism, Taxes; Parcel 4: Canoes, Playing Chess, Rugby, Taxidermy). The unidimensional measurement model fit the data well, $\chi^2(2) = 10.02$, $p < .01$, CFI = .99, NFI = .99, RMSEA = .07 (95% confidence interval = [.03, .12]). Therefore, the results of Study 1c replicated the results of Study 1b and indicated that the 16-item measure is a reliable,

psychometrically sound measure of dispositional attitudes. The descriptive statistics for the 16-item scale across all studies are displayed in Table 3.

Study 1d: Test-retest Reliability

Next, we examined the stability of dispositional attitudes by conducting a test-retest reliability study using a one month interval between administrations of the scale.

Participants and procedure—Undergraduates at the University of Illinois ($N = 80$) participated for partial course credit. The age of respondents ranged from 18 to 23 years ($M = 19.20$, $SD = 1.15$). The sample was 69% female. The sample was 59% Caucasian, 23% Asian, 5% Hispanic, and 13% other. Participants completed the 16-item scale and a demographic form at the beginning of the Fall semester in an introductory social psychology course. Participants completed the scale a second time one month later in the same course.

Results and discussion—The alpha and split-half reliability estimates for the scale replicated the results of Studies 1b-1c (see Table 3), and the test-retest reliability was .86. Therefore, dispositional attitudes appear to be a stable individual difference, at least over short time intervals. This is also further evidence for the reliability of the 16-item scale.

Study 1 Conclusion

Studies 1a-1d yielded a 16-item measure of dispositional attitudes, which we have named the Dispositional Attitude Measure (DAM). The DAM asks respondents to report attitudes toward 16 mostly independent stimuli, and it is scored by averaging across these attitude ratings. Consequently, individuals' DAM scores represent an overall tendency to have positive versus negative attitudes, regardless of what stimuli are being evaluated. Now that the measure has been created and its reliability established, it is important to examine the validity of the measure to ensure that the DAM truly measures dispositional attitudes.

Study 2: Construct Validity (Affective Traits, Openness, Conscientiousness, and Attachment Style) and Predictive Validity (Novel Attitudes)

Next, we examined the convergent, discriminant, and predictive validity of the DAM. For convergent validity, dispositional attitudes should be positively related to positive affect traits and negatively related to negative affect traits. To test these predictions, we measured a variety of traits related to both positive affect (extraversion, agreeableness, trait positive affect, optimism, self-esteem, life satisfaction, behavioral activation, and promotion focus) and negative affect (neuroticism, trait negative affect, behavioral inhibition, and prevention focus). Dispositional attitudes should also be positively related to curiosity-related traits, and to test this prediction we measured openness via the Big-Five Inventory. For discriminant validity, dispositional attitudes should be unrelated to traits unrelated to affect and curiosity. To test this prediction, we measured conscientiousness and attachment style. Simultaneous evidence for convergent and discriminant validity would strongly suggest that DAM scores represent a theoretically meaningful construct (Campbell & Fiske, 1959). Finally, we sought to demonstrate predictive validity by examining whether DAM scores could predict attitudes toward a novel stimulus.

Method

Participants and procedure—Undergraduates at the University of Illinois ($N = 271$) completed an online packet of questionnaires for partial course credit. The age of respondents ranged from 18 to 29 years ($M = 19.38$, $SD = 1.35$). The sample was 61%

female. The sample was 56% Caucasian, 24% Asian, 10% Hispanic, and 10% other. We included three "attention check" questions that read: "This question checks whether you are skipping questions. Select the middle option." These questions were randomly inserted throughout the questionnaires, and the response option to be selected varied across each question. Thirty-seven respondents failed at least two attention check questions. We rejected their submissions, and their data were not recorded. Therefore the sample size of 271 respondents does not include those who failed this manipulation check.

Measures and predictions—Participants completed (in randomized order) the DAM, 17 other individual difference measures, a demographic form, and a novel attitude measure. For the sake of brevity, a detailed description of each individual difference measure appears in Table 4; additional information for scales that were modified or require elaboration appears below. Unless noted below, we used 7-point scales for all questionnaires, and all scale anchors came from the original measures. Predictions for convergent and discriminant validity are summarized in Table 4. Finally, we predicted that dispositional attitudes would positively correlate with newly formed attitudes measured in the novel attitude questionnaire.

PANAS modification: Because many items on the PANAS are low frequency (e.g., "inspired", "guilty"), we expanded the measure to 40-items to include higher frequency emotions. The positive affect scale included the terms active, alert, attentive, calm, content, determined, enthusiastic, excited, happy, hopeful, inspired, interested, powerful, proud, relaxed, satisfied, strong, surprised, and trusting. The negative affect scale included the terms afraid, angry, annoyed, anxious, ashamed, bored, disgusted, distracted, distressed, frustrated, guilty, hostile, nervous, powerless, sad, scared, tired, upset, worried, irritable, and jittery. For each emotion, participants were presented with the question stem "In general (on average), I feel..." and scales from 1 (*very slightly or not at all*) to 7 (*extremely*). Each scale was scored by averaging across all items on the scale.

A note on social desirability: The Marlowe-Crowne Social Desirability Scale (MC-SD) is a 33-item measure of an individual's tendency to respond to questionnaires with socially desirable though potentially false responses. Items on the scale include common behaviors to which many individuals do not like to admit (e.g., "I like to gossip at times"). Participants provide a dichotomous yes/no response to each item, and participants are given one point for each item on which they provide the socially desirable response, so that higher scores indicate an increased tendency to portray oneself in a socially desirable manner. We predicted dispositional attitudes would be related to socially desirable responding no more or less than are other traits. Therefore, the magnitude of the correlation between the DAM and MC-SD should be roughly the same magnitude as the correlations between the MC-SD and the remaining traits.

Novel attitude questionnaire: Participants completed an ostensible consumer opinion survey, in which they read about the "Monahan LPI-800 Compact 2/3-Cubic-Foot 700-Watt Microwave Oven." Although this product is fictitious, participants were led to believe that it was real. Participants read six fabricated product reviews, three of which were positive and three of which were negative. After reading the reviews, participants reported their attitudes toward the product using four 7-point semantic differential scales ("I think this product is something that..." I dislike/I like, is bad/is good, is useless/is useful, is unfavorable/is favorable). Responses were averaged to form an overall attitude toward the product.

Results and Discussion

Convergent and discriminant validity—Our convergent and discriminant validity predictions were largely supported (Table 5). Dispositional attitudes correlated positively with positive affect traits, correlated negatively with negative affect traits, correlated positively with openness, and were uncorrelated with conscientiousness and attachment style. Further, the MC-SD correlated with the DAM at the same magnitude as it correlated with the other constructs in the study, indicating that the DAM is no more related to socially desirable responding than any other construct that was measured. The only convergent validity predictions not supported were the predicted associations of the DAM with agreeableness (but see Study 4) and prevention focus. Next, we conducted a multiple regression to predict DAM scores from the other individual difference measures. Based on the adjusted R^2 value, these variables accounted for only 20% of the variance in dispositional attitudes, indicating that dispositional attitudes are not reducible to a collection of these other constructs (Table 6).[2] Thus, the DAM displayed good convergent and discriminant validity.

Predictive validity—DAM scores were positively correlated with attitudes toward the novel microwave product (Table 5). Next, we conducted a multiple regression to predict novel attitudes from the DAM and other individual differences. Dispositional attitudes remained a significant predictor of novel attitudes controlling for these variables (Table 6). These results demonstrate that the dispositional attitude construct is useful and unique in its ability to predict attitude valence as a function of the individuals forming the attitudes.

Discussion—Study 2 provided strong evidence for the construct validity of the DAM, and it also demonstrated the utility of the dispositional attitude construct – specifically, dispositional attitudes can be used to predict novel attitudes, even though other related constructs cannot.

Study 3: Construct Validity (Curiosity-Related Traits, Attitude-Relevant Traits, Imagination, and Pre-Existing Attitudes) and Predictive Validity (Novel Attitudes)

Study 3 extends the findings of Study 2 in three important ways. First, to further rule out the possibility that DAM scores reflect a response bias, we manipulated the scale anchors on the DAM to create reverse-scored items. If the DAM maintains good reliability and construct validity when using reverse-scored items, it will be particularly strong evidence that dispositional attitudes exist independent of any influence of scale anchors.

Second, we expanded our investigation of the DAM's construct validity. Dispositional attitudes should positively correlate with curiosity-related constructs, and to test this prediction we measured curiosity, inquisitiveness, and variety seeking. We also examined the relation of the DAM with a set of constructs that are frequently used in attitudes research. For this purpose, we measured need for cognition, need for closure, need for evaluation, and need for structure. We viewed the associations of the DAM with these constructs as an open-ended empirical question. We also examined discriminant validity in

[2]We also analyzed all data in Studies 2-4 including gender as a predictor of both dispositional and novel attitudes. Overall, the results were unchanged: Gender was not a significant predictor, including gender as a predictor did not change the relation of other variables with the DAM, and analyzing the data separately for men and women did not yield different results. The only exception to this pattern is that gender was a significant predictor of DAM scores in Study 2 (B = -.25, *S.E.* = .08, β = -.18, p < .01), with men (M = 4.36, SD = .65) scoring higher than women (M = 4.00, SD = .64). However, the magnitude and significance of other predictors remained unchanged. Further, this effect did not replicate in Studies 3-4. Therefore, gender is not discussed further.

relation to the imagination facet of openness, which is unrelated to affectivity and attitudes toward stimuli.

Third, as an additional test of construct validity, we measured two pre-existing attitudes not measured in the DAM scale. Dispositional attitudes should positively correlate with pre-existing attitudes that are not already assessed in the DAM. This would further support our claims that the existence of dispositional attitudes implies (a) that attitudes toward unrelated objects will tend to be positively related, and (b) that the valence of specific attitudes can be predicted based on properties of the individuals expressing those attitudes. We therefore view these predictions as an additional test of construct validity.

Method

Participants and procedure—MTurk users (N = 250) completed an online packet of questionnaires for $0.25. The age of respondents ranged from 19 to 66 years (M = 30.74, SD = 9.17). In this sample, 37% of respondents were female, 78% had a bachelor's degree or higher, and the modal income category was $0-$24,999. The sample was 67% Indian, 20% Non-Indian Asian, 10% Caucasian, and 3% other. We used the same attention check manipulation from Study 2, this time with four questions. One-hundred twelve respondents failed at least two attention check questions. We rejected their MTurk submissions, and their data were not recorded. Therefore the sample size of 250 respondents does not include those who failed this manipulation check.

Measures and predictions—Participants completed (in randomized order) the DAM, 8 other individual difference measures, a demographic form, the novel attitude measure from Study 2, and a pre-existing-attitude measure. For the sake of brevity, a detailed description of each individual difference measure appears in Table 4; we provide additional information below for a few scales that were modified or require elaboration. Unless noted below, we used 7-point scales for all questionnaires, and all scale anchors came from the original measures. Predictions for convergent and discriminant validity with the individual difference measures are displayed in Table 4. We also predicted that dispositional attitudes would demonstrate convergence with the two specific pre-existing attitudes that were measured. Finally, we predicted that dispositional attitudes would positively correlate with newly formed attitudes measured in the novel attitude questionnaire.

DAM modification: To further rule out the potential for response bias to confound relations between the DAM and other measures, we created eight reversed-scored items. This was accomplished by reversing scale anchors on the DAM, such that half of the items used the original scale of 1 (*extremely unfavorable*) to 7 (*extremely favorable*), whereas the other half used a scale of 1 (*extremely favorable*) to 7 (*extremely unfavorable*). We systematically varied the anchors, such that odd-items used the original scale and even-items used the reversed-scale (in Study 4, scale anchors were randomly varied rather than systematically varied). Importantly, this manipulation was within-subjects, so that if participants had a response bias such as acquiescence, it would be eliminated when combining straight-scored and reverse-scored items into a single composite measure.[3]

Questionnaire of pre-existing-attitudes not included in the DAM: Participants reported attitudes toward two attitude-objects for which they likely held pre-existing attitudes: getting vaccine shots and recycling. For each topic, participants were presented with the question stem “In my opinion, [this topic] is something that...” and two scales from 1 (*I dislike / is*

[3]We are grateful to Dr. Laura King for insightfully suggesting this manipulation.

unfavorable) to 7 (*I like / is favorable*). For each topic, we combined responses to these questions to form an overall attitude. Neither of these attitudes is measured in the DAM.

Results and Discussion

Scale reliability—The DAM's reliability was still good when using reverse-scored items (α = .67, split-half reliability = .69). If DAM scores were being driven by a response bias related to scale format, then reverse scoring half of the scale would have resulted in extremely poor reliability estimates. Reliability, however, remained good in spite of the scale anchor manipulation.

Convergent and discriminant validity—Our convergent and discriminant validity predictions were supported (Table 7). Dispositional attitudes correlated positively with curiosity-related traits while being uncorrelated with imagination. Further, dispositional attitudes correlated positively with the individual pre-existing attitudes that were measured but that do not appear in the DAM. The relation between dispositional attitudes and the needs for cognition, evaluation, closure, and personal structure was an empirical question – dispositional attitudes were positively correlated with need for cognition and need for evaluation, but were uncorrelated with need for closure and need for personal structure. Next, we conducted a multiple regression to predict DAM scores from the other individual difference measures. Based on the adjusted R^2 value, these variables accounted for only 10% of the variance in dispositional attitudes, indicating that dispositional attitudes are not reducible to a collection of these other constructs (Table 8).

Predictive validity—Dispositional attitudes once again predicted attitudes toward the novel consumer product (Table 7). This relation remained when controlling for attitude-related constructs and curiosity (Table 8).

Discussion—Study 3 demonstrated four important findings. First, the DAM's reliability was not influenced by the use of reverse-scored items, further ruling out the possibility that DAM scores are heavily influenced by response bias. Second, the study provided further evidence for convergent validity via significant associations with curiosity-related traits, while simultaneously demonstrating discriminant validity via non-significant associations with the imagination facet of openness. Third, the fact that DAM scores correlated positively with individual pre-existing attitudes that are not included in the DAM itself further supports the claims (a) that attitudes toward unrelated objects tend to be positively related, and (b) that the valence of specific attitudes can be predicted based on properties of the individuals expressing those attitudes. Thus, if a researcher knows someone's dispositional attitude, the researcher has some indication about how that individual will evaluate any randomly chosen stimulus. Fourth, the predictive validity results from Study 2 were replicated when constructs commonly studied in attitudes research were controlled for, demonstrating that dispositional attitudes provide useful and unique information concerning attitudes.

Study 4: Construct Validity (Big-Five Facets and Pre-Existing Attitudes) and Predictive Validity (Novel Attitudes)

Study 4 addresses three remaining concerns. First, the revere-scoring procedure employed for the DAM in Study 3 systematically varied scale anchors, such that all odd-items used the original scale and all even-items used the reversed-scale. This predictability may have reduced the effectiveness of the reverse-scoring procedure because participants could anticipate how to respond on each subsequent DAM item. In Study 4, we resolved this issue by assigning reversed-anchors to a random six of the 16 items on the DAM. Consequently, this is a stronger test of whether reverse-scoring influences DAM scores.

Second, we wanted to replicate the convergent validity displayed between DAM scores and specific pre-existing attitudes not already measured in the DAM (see Study 3). The fact that attitudes toward independent stimuli are positively associated is a novel and surprising result that is central to our argument for the existence of dispositional attitudes. It is therefore important to ensure that these results replicate.

Third, in Study 2 we examined the relation between dispositional attitudes and the big-five traits measured at the broad trait level. However, the big-five traits are often decomposed into sub-scales known as facets, which represent more specific personality aspects that comprise each broad trait. Because facets for each trait have some heterogeneity in content, it is likely that dispositional attitudes are associated with certain facets but not others within a trait. Consequently, correlations between dispositional attitudes and the big-five at the broad trait level may have led to the erroneous conclusion that dispositional attitudes are not redundant with the big-five. For example, if only one of the six openness facets is strongly correlated with dispositional attitudes, then combining that one facet with five unrelated facets would spuriously indicate that dispositional attitudes are only somewhat related to, but still clearly distinct from, openness. Thus, it is important to examine the relation between dispositional attitudes and all big-five facets to ensure that there is not substantial overlap at the facet level. Finally, we also examined whether dispositional attitudes retained their predictive validity for novel attitudes while controlling for all facets of the big-five.

Method

Participants and procedure—MTurk users (N = 200) completed an online packet of questionnaires for $0.50. The age of respondents ranged from 18 to 69 years (M = 33.27, SD = 11.74). In this sample, 42% of respondents were female, 62% had a bachelor's degree or higher, and the modal income category was $0-$24,999. The sample was 42% Indian, 35% Caucasian, 16% Non-Indian Asian, and 7% other. We used the same attention check manipulation from Study 3. Twenty respondents failed at least two attention check questions. We rejected their MTurk submissions, and their data were not recorded. Therefore the sample size of 200 respondents does not include those who failed this manipulation check.

Measures and predictions—Participants completed (in randomized order) the DAM, the novel attitude questionnaire from Studies 2-3, the pre-existing-attitude questionnaire from Study 3, a demographic form, and a 300-item measure of the 30 big-five facets. For the sake of brevity, a sample item from each facet scale appears in Table 9. We used 7-point scales for all questionnaires, and all scale anchors came from the original measures. Rather than making specific predictions for each individual facet measure, we made the broad predictions that dispositional attitudes would be (a) positively related to at least some facets of openness, extraversion, and agreeableness, (b) negatively related to at least some facets of neuroticism, and (c) unrelated to all facets of conscientiousness. Finally, we predicted that dispositional attitudes would positively correlate with both pre-existing and novel attitudes.

DAM modification: To further rule out the potential for response bias to confound relations between the DAM and other measures, we created reversed-scored items using the same strategy employed in Study 3. In this study, a random six of the 16 items were assigned reversed-anchors so that participants could not anticipate the scale format of each subsequent item on the DAM.

Big-five facet measure: We used the 300-item big-five IPIP measure that provides 6 facet scores each for openness, conscientiousness, extraversion, agreeableness, and neuroticism (http://ipip.ori.org/). Facet labels can be found in Table 9.

Results and Discussion

Scale reliability—Once again, the DAM's reliability was not negatively impacted by using reverse-scored items (α = .72, split-half reliability = .83). This is further evidence that variance in DAM scores is not driven by response bias, but rather by a general tendency to like versus dislike stimuli.

Convergent and discriminant validity—Our convergent and discriminant validity predictions were supported (Table 9). Dispositional attitudes correlated positively with at least one facet of openness, extraversion, and agreeableness, correlated negatively with at least one facet of neuroticism, and were uncorrelated with all facets of conscientiousness. Further, dispositional attitudes were positively associated with the trust facet of agreeableness while being negatively associated with the morality, cooperation, and modesty facets. This mix of positive and negative correlations could explain the null correlation observed in Study 2 between the DAM and agreeableness at the broad trait level. Finally, dispositional attitudes correlated positively with the specific pre-existing attitudes, replicating the convergent validity results from Study 3. Next, we conducted a multiple regression to predict DAM scores from all facet measures. Based on the adjusted R^2 value, these variables accounted for only 19% of the variance in dispositional attitudes, indicating that dispositional attitudes are not reducible to a collection of the big-five facets (Table 10).

Predictive validity—Dispositional attitudes once again predicted attitudes toward the novel consumer product (Table 9). This relation remained significant when controlling for the big-five facets (Table 10).

Discussion—Study 4 demonstrated three important findings. First, the DAM's reliability was not influenced by the introduction of items that randomly varied in whether they were reverse-scored or straight-scored, further ruling out the possibility that DAM scores are heavily influenced by response bias. Second, dispositional attitudes were not redundant with the big-five, even when examining facets. Third, the novel attitude prediction results of Studies 2-3 replicated while controlling for all 30 big-five facets. These results are strong evidence for the construct and predictive validities of the DAM.

General Discussion

In the present research, we introduced the construct of the dispositional attitude, defined as an individual difference in the general tendency to like versus dislike stimuli. The data presented indicate that attitudes can be partly predicted based on characteristics of the individuals who evaluate a stimulus without considering what attitude-object is being evaluated. Consequently, attitudes toward unrelated stimuli were shown to be positively correlated due to the influence of the personality of the evaluators. This surprising and novel discovery expands attitude theory by demonstrating that an attitude is not simply a function of an object's properties, but it is also a function of the properties of the individual who evaluates the object. Overall, the present research provides clear support for the dispositional attitude as a meaningful construct that has important implications for attitude theory and research.

Future Directions and Relating Dispositional Attitudes to Relevant Theories

Perceiver and target effects—The dispositional attitude can be conceptualized as a perceiver effect, in which an aspect of a judge influences judgments of a target. This notion is similar to the halo effect, in which a judge rates a given target more positively along all judgment dimensions (Nibsett & Wilson, 1977; Thorndike, 1920). However, the halo effect represents a target effect, such that people associate *specific* targets with the valence of a

single judgment dimension (e.g., a physically attractive person may be judged more positively on other dimensions because the positive affect experienced in response to the physical attraction dimension is generalized to other judgment dimensions; importantly, this effect would only occur for this particular target, but not for another target who may be physically unattractive.). Although dispositional attitudes and halo effects both concern generalized positive or negative judgments, dispositional attitudes likely exist because individuals rely on common evaluative processes for all objects, whereas halo effects likely exist because the valence of one trait incorrectly generalizes to judgments of other traits. It is possible that dispositional attitudes may be developmentally based on other perceiver/target effects such as halos. For example, if individuals chronically generalize favorable traits to other traits throughout their developmental history, they may indeed begin to chronically form expectations that all objects are evaluatively similar; however, it is also likely that the two phenomena coexist without being causally linked.

Processes underlying the relation between dispositional attitudes and specific attitudes—It is likely that dispositional attitudes and specific attitudes are related because similar psychological processes led to the formation of both past and current attitudes toward different objects. For example, if an individual always gives positive stimulus-related information more attention or weight than negative stimulus-related information, and if this differential attention/weighting translates into actual attitudes, then a measure of the individual's dispositional attitudes will predict an attitude toward a specific stimulus because both sets of attitudes (the dispositional and the specific) were influenced by a common process. A number of psychological processes exist that could explain the relation between dispositional and specific attitudes. An initial list of potential explanations for this relation includes: (a) differential baseline accessibility for valenced concepts, such that concepts related to “liking” and “positive” (“disliking” and “negative”) are chronically accessible for individuals with positive (negative) dispositional attitudes; (b) differential expectations, such that individuals with positive (negative) dispositional attitudes expect to like (dislike) stimuli and are therefore primed to form positive (negative) attitudes; (c) differential selective exposure, such that individuals with positive (negative) attitudes tend to actively seek out positive (negative) information and avoid negative (positive) information; (d) differential allocation of attentional resources, such that individuals with positive (negative) dispositional attitudes automatically and/or deliberately allocate more attention to positive (negative) stimulus information; (e) differential prioritization and weighting of information, such that individuals with positive (negative) dispositional attitudes strongly weigh positive (negative) information; and (f) differential recall of affective information, such that individuals with positive (negative) dispositional attitudes have facilitated recall of positive (negative) stimulus attributes. Dispositional attitudes are likely related to specific attitudes because of differences in the tendencies to use such processes. Therefore, a measure of one or more of these processes should (a) explain variability in dispositional attitudes and (b) reduce the association between dispositional and specific attitudes when it is included as a predictor of the specific attitudes. In other words, dispositional attitudes can be thought of as a proxy for a variety of unmeasured processes that bias an individual's attitudes, which explains why dispositional attitudes should be related to specific attitudes.

It is also possible that dispositional attitudes exert a causal influence on specific attitudes. That is, an individual may come to identify as the type of person who generally likes (dislikes) things, and this self-perception could motivate that individual to actively form and maintain positive (negative) attitudes. These are all interesting and plausible effects that should be explored in future research to develop a fuller understanding of the dispositional attitude and its relation to specific attitudes via known psychological processes.

Attitude change—It is possible that dispositional attitudes could moderate the effectiveness of persuasion attempts. This prediction dovetails with the discussion on the processes that cause dispositional and specific attitudes to be related. Specifically, if dispositional attitudes are related to the accessibility of, attention toward, or recall for valenced information, individuals with positive (negative) dispositional attitudes may be easily compelled to form positive (negative) associations with stimuli rather than negative (positive) associations. As a result, individuals with positive dispositional attitudes may be easily persuaded to like things (e.g., consumer products) or adopt behaviors (e.g., exercise), whereas individuals with negative dispositional attitude may be easily persuaded to dislike things (e.g., a competitor's product) or abandon behaviors (e.g., smoking). This pattern would be interesting at a theoretical level because it would suggest a new moderator for the effectiveness of persuasion, and it could also aid applied researchers in prioritizing resource allocation. For example, if a company's target market was identified as having particularly negative dispositional attitudes, it may be more effective to persuade them to dislike a competitor's product rather than like the company's product.

Behavior prediction—Dispositional attitudes may also be able to enhance behavior prediction models. Specifically, two hypotheses can be formed. First, it is possible that a *6* response on a *1-7* attitude scale from one person should be treated differently than a *6* from another person. For example, if the first person typically responds to attitude items with a *6* (i.e., this person's dispositional attitude is a *6* out of *7*), then a response of *6* to one specific item may not be very informative. However, if a second person typically responds to attitude items with a *2*, then a response of *6* to one specific item may be very informative – this individual *really* likes this particular stimulus compared to other stimuli and should thus be highly motivated to pursue this particular stimulus. Using this logic, specific attitudes could be contextualized by dispositional attitudes using techniques like hierarchical linear modeling (i.e., nesting attitudes within people) to enhance behavior prediction models (Snijders & Bosker, 1999).

It is also possible that a *6* from one person should be treated the same as a *6* from another person. If so, when considering how motivated an individual is to pursue a behavior or stimulus, the individual's absolute attitude rating would matter. Using this logic, individuals with a larger number of positive attitudes may simply be motivated to approach more stimuli and engage in more behaviors compared to individuals with a larger number of negative attitudes. In other words, a positive dispositional attitude may predict increased behavioral activity in the same way that high levels of positive emotion lead to increased behavioral activity (Fredrickson, 1998; Custers & Aarts, 2005, 2007; c.f. Aarts, Custers, & Holland, 2007). Recent work has demonstrated that a large amount of variability exists in the motivation to be active versus inactive (Albarracin et al., 2008), and people who are motivated to be active can be led to engage in a variety of seemingly unrelated behaviors that range from impulsive to conscientious (Hepler, Albarracin, McCulloch, & Noguchi, 2012; Hepler, Wang, & Albarracin, 2012). Although the antecedents of motivation for activity are still not completely understood (Albarracin, Hepler, & Tannenbaum, 2011), variability in dispositional attitudes offers promise for understanding these differences. Overall, both behavior predication hypotheses are plausible, and they are not mutually exclusive, as both absolute and relative attitude levels could inform behavior prediction models.

Concluding Remarks

The present research introduced the concept of the dispositional attitude – an individual's general tendency to like versus dislike stimuli. A corollary of dispositional attitudes is that an individual's attitudes toward independent, ostensibly unrelated stimuli will be positively

related. This pattern is surprising to the extent that prevailing attitude theories emphasize attitudes being determined by properties of the stimuli under evaluation and not the properties of the people evaluating the stimuli. The present research demonstrated that some people tend to like things, whereas others tend to dislike things, and a more thorough understanding of this tendency will lead to a more thorough understanding of the psychology of attitudes.

Appendix

Appendix A

Instructions We are interested in your attitudes toward a wide variety of objects and issues. Please rate each object/issue using the scale provided. There are no right or wrong answers, and no trick questions. We are simply interested in how YOU feel about each of these objects/issues.

1 Extremely unfavorable	2	3	4	5	6	7 Extremely favorable

1._Architecture	9._Politics
2._Bicycles	10._Public speaking
3._Camping	11._Receiving criticism
4._Canoes	12._Rugby
5._Cold showers	13._Soccer
6._Doing crossword puzzles	14._Statistics
7._Japan	15._Taxes
8._Playing chess	16._Taxidermy

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Table 1

The 100 stimuli used in Studies 1a-1b.

Item number	Item	Mean	SD	Component score	Communality
1	Abortion on demand	3.14	2.25	.12	.01
2	America	5.84	1.46	-.10	.01
3	Antidepressants	3.84	2.08	.10	.01
4	***Architecture**	**5.78**	**1.17**	**.34**	**.12**
5	Arguing with a significant other	2.30	1.47	.25	.06
6	Babies on airplanes	3.38	1.56	.33	.11
7	Barack Obama	3.73	2.13	.15	.02
8	Being assertive	5.55	1.24	.16	.03
9	Being bored	2.04	1.23	.13	.02
10	Being single	3.92	1.71	.20	.04
11	Being the center of attention	3.86	1.85	.07	.01
12	Being the leader of groups	4.34	1.52	.19	.04
13	Being the target of a joke	2.08	1.17	.26	.07
14	Being tired	2.18	1.37	.22	.05
15	***Bicycles**	**5.30**	**1.53**	**.40**	**.16**
16	Big parties	4.00	1.94	.01	.00
17	Board games	5.26	1.44	.21	.04
18	Bottled water	4.62	1.79	-.16	.03
19	Bumper stickers	3.76	1.77	.26	.07
20	***Camping**	**4.32**	**2.07**	**.53**	**.28**
21	***Canoes**	**4.12**	**1.53**	**.52**	**.27**
22	Capitalism	4.16	1.91	.27	.08
23	Castration as punishment for sex crimes	4.00	2.49	.04	.00
24	Chalk	3.90	1.46	.28	.08
25	Chemicals	3.46	1.53	.32	.10
26	Coffee	5.50	1.94	.10	.01
27	***Cold showers**	**2.14**	**1.59**	**.42**	**.18**
28	Conan O'Brien	4.02	1.76	.25	.06
29	Concerts	5.57	1.41	.14	.02

J Pers Soc Psychol. Author manuscript; available in PMC 2013 June 06.

Item number	Item	Mean	SD	Component score	Communality
30	Condoms	5.14	1.87	-.06	.00
31	Corporations	4.12	1.49	.08	.01
32	Country music	4.02	1.99	.02	.00
33	Curtains	4.80	1.57	.13	.02
34	Death penalty for murder	4.76	2.05	.01	.00
35	Dinner parties	5.28	1.53	.05	.00
36	Dogs	5.50	1.81	.10	.01
37	Doing athletic activities	5.43	1.50	.22	.05
38	***Doing crossword puzzles**	**5.56**	**1.58**	**.37**	**.14**
39	Energy drinks	3.72	2.01	.16	.03
40	Exercising	5.76	1.14	.25	.06
41	Extinction	2.06	1.54	.10	.01
42	Facebook	4.62	2.01	-.21	.04
43	Furniture	5.69	1.34	.14	.02
44	Gaining weight over the holidays	2.18	1.44	.32	.10
45	Global warming	2.06	1.39	.10	.01
46	Going to the dentist	2.84	1.83	.24	.06
47	Gossiping	3.02	1.88	-.08	.01
48	Hallucinations	2.53	1.75	.32	.10
49	Health care	4.90	2.01	.05	.00
50	High school	4.46	1.95	.14	.02
51	***Japan**	**4.74**	**1.72**	**.36**	**.13**
52	Lawyers	3.28	1.87	.23	.05
53	Looking your best at all times	5.24	1.35	-.04	.00
54	Losing a game	2.52	1.07	.25	.06
55	Loud music	3.58	1.89	.12	.01
56	Macs	4.00	1.77	-.05	.00
57	Making less money than a friend	2.96	1.24	.32	.10
58	Making racial discrimination illegal	5.10	2.26	.13	.02
59	Marijuana	3.73	2.34	.25	.06
60	Microbreweries	4.67	1.76	.31	.10

J Pers Soc Psychol. Author manuscript; available in PMC 2013 June 06.

Item number	Item	Mean	SD	Component score	Communality
61	Mullets	2.39	1.79	.35	.12
62	Nascar	2.80	1.63	.34	.12
63	Netflix	5.02	1.58	.04	.00
64	Non-profit organizations	5.42	1.57	.20	.04
65	Nuclear weapons	2.39	1.67	.16	.03
66	Organic food	4.86	1.81	.27	.07
67	Organized religion	3.82	2.01	.06	.00
68	***Playing chess**	**3.90**	**1.98**	**.50**	**.25**
69	Playing organized sports	4.90	1.78	.24	.06
70	***Politics**	**3.30**	**1.87**	**.34**	**.12**
71	***Public speaking**	**3.66**	**2.05**	**.39**	**.15**
72	***Receiving criticism**	**3.28**	**1.68**	**.43**	**.18**
73	Recycling	5.52	1.49	.21	.04
74	Rhinestones	3.62	1.73	-.04	.00
75	Roller coaster rides	4.52	2.26	.18	.03
76	***Rugby**	**3.54**	**1.75**	**.46**	**.21**
77	Sandwiches	5.90	1.30	.18	.03
78	Sea salt	5.14	1.76	.28	.08
79	Secondhand smoke	2.02	1.73	.19	.04
80	Separate roles for men and women	3.04	1.90	.15	.02
81	Skunks	2.00	1.43	.38	.14
82	Slow-walking pedestrians	2.62	1.52	.34	.11
83	***Soccer**	**4.14**	**1.96**	**.39**	**.15**
84	***Statistics**	**4.66**	**1.75**	**.44**	**.19**
85	Steroids	2.29	1.29	.28	.08
86	Sweaters	5.65	1.44	.21	.04
87	***Taxes**	**2.08**	**1.54**	**.42**	**.18**
88	***Taxidermy**	**2.78**	**1.57**	**.48**	**.23**
89	Tea	5.90	1.39	.33	.11
90	Televangelists	2.16	1.50	.22	.05
91	Testing products on animals	2.50	1.79	.33	.11

J Pers Soc Psychol. Author manuscript; available in PMC 2013 June 06.

Item number	Item	Mean	SD	Component score	Communality
92	The homeless	3.02	1.76	.22	.05
93	The taste of cough syrup	2.47	1.75	.30	.09
94	Traffic	2.28	1.37	.28	.08
95	T-Shirts	5.60	1.47	.10	.01
96	Vegetarianism	4.00	1.88	.28	.08
97	Vintage	4.82	1.44	.27	.07
98	Voluntary euthanasia	3.38	2.18	.26	.07
99	Wearing clothes that draw attention	3.42	1.80	.18	.03
100	Wine	5.16	1.83	.17	.03

Notes: This data is from Study 1b. Communality estimates are the component scores squared and represent the variance in the item accounted for by the dispositional attitude factor. Items retained on the final scale are bold and have an asterisk next to the item.

Table 2

Reliability estimates as a function of scale length in Study 1b.

Scale length	α	Split-half reliability	# Very negative items	# Slightly negative items	# Slightly positive items	# Very positive items
100	.83	.91	25	25	25	25
95	.84	.91	25	24	23	23
90	.84	.91	25	23	20	22
85	.84	.91	25	23	17	20
80	.85	.92	24	21	16	19
75	.84	.92	23	19	16	17
70	.85	.92	22	18	14	16
65	.85	.92	21	16	14	14
60	.85	.92	21	14	14	11
55	.84	.91	20	13	12	10
50	.84	.91	20	12	12	6
45	.84	.91	17	11	11	6
40	.83	.91	15	10	10	5
35	.83	.90	14	8	8	5
30	.82	.90	12	7	6	5
25	.80	.89	9	7	5	4
20	.79	.88	7	5	5	3
15	.76	.86	4	4	5	2
10	.71	.83	3	3	3	1
5	.66	.80	1	2	2	0

Notes: Split-half reliability was calculated comparing odd and even numbered items. Very negative items had means of 2-2.99, slightly negative items had means of 3-3.99, slightly positive items had means of 4-4.99, and very positive items had means of 5-5.99.

Table 3

Descriptive statistics for the 16-item DAM across all studies.

Study	*N*	*M*	*SD*	*S*	*K*	α	S-H	T-R
1a	50	3.96	.78	-.12	.35	.71	.76	
1b	571	3.77	.73	.17	.12	.77	.79	
1c	750	4.67	.78	-.36	.22	.78	.83	
1d Time 1	80	3.68	.73	.07	.01	.75	.73	
1d Time 2	80	3.74	.71	-.56	.98	.79	.82	.86
2	271	4.14	.69	-.11	.10	.73	.79	
3	250	4.34	.72	.39	-.21	.67	.69	
4	200	4.23	.73	.56	1.25	.72	.83	
Average		4.07	.73	.01	.35	.74	.78	
Average$_{Weighted}$		4.22	.74	-.02	.25	.75	.79	

Notes: *N* = sample size. *M* = mean. *SD* = standard deviation. *S* = skew. *K* = kurtosis. α = Cronbach's alpha. S-H = split-half reliability. T-R = test-retest reliability. Average$_{Weighted}$ is the average weighted by sample size.

Table 4

Description of individual difference measures used in construct validation during Studies 2-3.

Construct being measured	Scale	No. of Items	Sample Item	Predicted Relation
Study 2				
Openness	BFI (John et al., 2008)	10	I see myself as someone who is original, comes up with new ideas	+
Conscientiousness	BFI (John et al., 2008)	9	I see myself as someone who does a thorough job	None
Extraversion	BFI (John et al., 2008)	8	I see myself as someone who generates a lot of enthusiasm	+
Agreeableness	BFI (John et al., 2008)	9	I see myself as someone who is considerate and kind to almost everyone	+
Neuroticism	BFI (John et al., 2008)	8	I see myself as someone who is depressed, blue	-
Positive Affect	PANAS (Watson et al., 1998) plus additional items	20	In general (on average), I feel happy	+
Negative Affect	PANAS (Watson et al., 1988) plus additional items	20	In general (on average), I feel sad	-
Optimism	Life-orientation test (Scheier, Carver, & Bridges, 1994)	10	Overall, I expect more good things to happen to me than bad	+
Self-esteem	Rosenberg's self-esteem scale (Rosenberg, 1965)	10	I feel that I have a number of good qualities	+
Life satisfaction	Satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985)	5	I am satisfied with my life	+
Behavioral activation	Behavioral activation scale (Carver & White, 1994)	13	When good things happen to me, it affects me strongly	+
Behavioral inhibition	Behavioral inhibition scale (Carver & White, 1994)	7	I worry about making mistakes	-
Promotion focus	Regulatory focus questionnaire (Higgins et al., 2001)	6	I feel like I have made progress toward being successful in my life	+
Prevention focus	Regulatory focus questionnaire (Higgins et al., 2001)	5	Not being careful enough has gotten me into trouble at times	-
Social desirability	Marlowe-Crowne social desirability scale (Crowne & Marlow, 1960)	33	I like to gossip at times	?
Attachment avoidance	Experiences in close relationships questionnaire (Fraley et al., 2011)	6	I find it easy to depend on my mom	None
Attachment anxiety	Experiences in close relationships questionnaire (Fraley et al., 2011)	3	I don't fully trust my mom	None
Study 3				
Need for cognition	Need for cognition (Cacioppo & Petty, 1982)	18	I really enjoy a task that involves coming up with new solutions to problems	?

Construct being measured	Scale	No. of Items	Sample Item	Predicted Relation
Need for evaluation	Need for evaluation (Jarvis & Petty, 1996)	16	I pay a lot of attention to whether things are good or bad	?
Need for closure	Need for cognitive closure (Webster & Kruglanski, 1994)	42	I do not usually consult many different opinions before forming my own view	?
Need for structure	Need for personal structure (Neuberg & Newsom, 1993)	12	It upsets me to go into a situation without knowing what I can expect from it	?
Variety seeking	IPIP variety seeking (http://ipip.ori.org/)	10	I enjoy hearing new ideas	+
Curiosity	Values in action inventory (Peterson & Seligman, 2004)	10	I am always excited by many different activities	+
Inquisitiveness	IPIP Inquisitiveness (http://ipip.ori.org/)	10	I am interested in science	+
Imagination	IPIP O1: Imagination (http://ipip.ori.org/)	10	I have a vivid imagination	None

Notes: The predicted relation column represents predictions for correlations of the construct with dispositional attitudes. “+” indicates a positive relation. “-” indicates a negative relation. “None” indicates a null relation (i.e., discrimination). “?” indicates that the relation was an empirical question.

Table 5

Descriptive statistics and correlations among scales in Study 2.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. DAM	4.14	.67	(.73)																		
2. Openness	4.77	.85	.31**	(.78)																	
3. Conscientiousness	4.76	.86	.04	.18**	(.81)																
4. Extraversion	4.55	1.09	.15*	.21**	.23**	(.88)															
5. Agreeableness	5.16	.82	.08	.10	.28**	.23**	(.78)														
6. Neuroticism	3.93	1.05	-.33**	-.06	-.21**	-.25**	-.34**	(.83)													
7. Positive affect	4.97	.78	.30**	.21**	.35**	.49**	.34**	-.51**	(.83)												
8. Negative affect	3.32	.86	-.19**	-.09	-.32**	-.24**	-.44**	.64**	-.45**	(.74)											
9. Optimism	4.47	1.02	.14*	.14*	.27**	.33**	.24**	-.44**	.58**	-.48**	(.79)										
10. Self-esteem	5.12	1.05	.13*	.11	.39**	.38**	.31**	-.40**	.65**	-.50**	.65**	(.90)									
11. Life satisfaction	4.81	1.28	.15*	.14*	.25**	.34**	.17**	-.40**	.59**	-.47**	.50**	.59**	(.86)								
12. Behavioral activation	5.20	.71	.14*	.33**	.23**	.50**	.11	-.09	.39**	-.13*	.23**	.39**	.29**	(.92)							
13. Behavioral inhibition	4.94	.87	-.29**	.04	-.07	-.15*	-.03	.64**	-.27**	.31**	-.22**	-.15*	-.17**	.06	(.93)						
14. Promotion focus	4.90	.92	.13*	.26**	.49**	.34**	.34**	-.26**	.52**	-.42**	.47**	.67**	.49**	.32**	-.06	(.68)					
15. Prevention focus	4.13	1.18	-.03	-.11	.24**	-.11	.16**	-.04	.02	-.14*	.06	.08	.07	-.11	.05	.18**	(.78)				
16. Social Desirability	15.47	5.03	.21**	.10	.29**	.12*	.40**	-.39**	.35**	-.41**	.33**	.26**	.24**	-.05	-.33**	.27**	.19**	(.75)			
17. Attachment avoidance	4.84	1.62	-.05	.09	.19**	.24**	.17**	.06	.17**	-.09	.16**	.13*	.19**	.13*	.17**	.27**	.17**	-.01	(.91)		
18. Attachment anxiety	1.65	1.22	.03	-.06	-.09	-.05	-.21**	-.05	-.14*	.17**	-.08	-.31**	-.18**	-.17**	-.19**	-.33**	-.12*	.07	-.29**	(.90)	
19. Novel attitude	3.90	.99	.23**	.07	-.06	.03	.09	-.09	.07	-.07	.06	.04	.08	.11	-.11	.04	.04	.10	.04	.06	(.82)

Notes: Cronbach's alphas are on the diagonal.

*$p < .05$.

**$p < .01$.

Table 6

Multiple regression statistics predicting both dispositional and novel attitudes in Study 2.

Variable	DAM		Novel attitude	
	***B* (*S.E.*)**	**β**	***B* (*S.E.*)**	**β**
1. DAM	-	-	.31 (.10)	.21**
2. Openness	.23 (.05)	.30**	-.02 (.08)	-.02
3. Conscientiousness	-.09 (.05)	-.11	-.17 (.08)	-.15*
4. Extraversion	-.01 (.04)	-.01	-.09 (.07)	-.09
5. Agreeableness	-.04 (.06)	-.05	.15 (.09)	.12
6. Neuroticism	-.11 (.06)	-.18	.10 (.10)	.11
7. Positive affect	.20 (.08)	.23**	-.10 (.13)	-.08
8. Negative affect	-.02 (.07)	-.02	-.02 (.11)	-.01
9. Optimism	-.05 (.05)	-.08	.01 (.09)	.01
10. Self-esteem	-.03 (.06)	-.05	.00 (.10)	.00
11. Life satisfaction	-.03 (.04)	-.05	.06 (.06)	.08
12. Behavioral activation	.04 (.07)	.04	.27 (.11)	.19*
13. Behavioral inhibition	-.10 (.06)	-.13	-.15 (.10)	-.13
14. Promotion focus	.00 (.06)	.01	.02 (.10)	.01
15. Prevention focus	.02 (.03)	.04	.06 (.06)	.07
16. Social Desirability	.01 (.01)	.08	.01 (.02)	.05
17. Attachment avoidance	-.02 (.03)	-.04	.05 (.04)	.09
18. Attachment anxiety	-.00 (.04)	-.00	.09 (.06)	.11
R^2_{Adjusted}		.20		.05

Notes

*$p < .05$.

**$p < .01$.

Table 7

Descriptive statistics and correlations among scales in Study 3.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. DAM	4.39	.72	(.67)											
2. Need for cognition	4.42	.81	.16**	(.82)										
3. Need for evaluation	4.54	.70	.18**	.56**	(.77)									
4. Need for closure	4.50	.51	-.06	-.14*	.09	(.80)								
5. Need for structure	4.56	.73	-.11	-.21**	-.01	.81**	(.70)							
6. Variety seeking	5.35	.86	.20**	.41**	.27**	-.10	-.27**	(.82)						
7. Curiosity	5.18	.88	.21**	.42**	.33**	.16**	.00	.63**	(.78)					
8. Inquisitiveness	4.95	.85	.29**	.55**	.43**	.14*	.00	.54**	.61**	(.71)				
9. Imagination	5.00	.89	.00	.39**	.34**	.08	-.01	.44**	.40**	.41**	(.70)			
10. Attitude (microwave)	4.55	1.54	.16**	-.18**	-.10	-.12	-.09	-.02	-.13*	-.11	-.23**	(.94)		
11. Attitude (getting vaccine shots)	5.20	1.55	.23**	.02	.11	.16*	.17**	.04	.12	.11	-.01	-.04	(.79)	
12. Attitude (recycling)	6.16	1.03	.28**	.24**	.23**	.12	.03	.34**	.29**	.34**	.26**	-.11	.26**	(.82)

Notes: Cronbach's alphas are on the diagonal.

* $p < .05$.

** $p < .01$.

Table 8

Multiple regression statistics predicting both dispositional and novel attitudes in Study 3.

Variable	DAM		Novel attitude	
	***B* (*S.E.*)**	**B**	***B* (*S.E.*)**	**β**
1. DAM	-	-	.37 (.14)	.18**
2. Need for cognition	-.06 (.08)	-.06	-.33 (.16)	-.17*
3. Need for evaluation	.12 (.08)	.12	.07 (.17)	.03
4. Need for closure	-.07 (.16)	-.05	-.29 (.34)	-.10
5. Need for structure	-.06 (.11)	-.07	.02 (.23)	.01
6. Variety seeking	.04 (.08)	.05	.28 (.16)	.16
7. Curiosity	.06 (.07)	.07	-.18 (.16)	-.11
8. Inquisitiveness	.24 (.08)	.29**	-.02 (.17)	-.01
9. Imagination	-.14 (.06)	-.17*	-.33 (.13)	-.19**
R^2_{Adjusted}		.10		.09

Notes

* $p < .05$.

** $p < .01$.

Table 9

Descriptive statistics and correlations of scales with the DAM in Study 4.

Variable	Sample item	Mean	SD	α	r_{DAM}
1. DAM		4.23	.73	.72	-
2. O1: Imagination	I have a vivid imagination	4.77	.99	.81	-.05
3. O2: Artistic	I believe in the importance of art	5.36	1.10	.88	.07
4. O3: Emotionality	I experience my emotions intensely	4.58	.93	.80	-.08
5. O4: Adventurousness	I am interested in many things	4.58	.84	.72	.23**
6. O5: Intellect	I have a rich vocabulary	4.84	1.06	.86	.08
7. O6: Liberalism	I tend to vote for liberal political candidates	3.83	.95	.73	-.18**
8. C1: Efficacy	I complete tasks successfully	5.27	1.01	.87	-.01
9. C2: Orderliness	I do things according to a plan	4.69	1.04	.83	-.07
10. C3: Dutifulness	I try to follow the rules	5.35	1.10	.89	-.06
11. C4: Achievement striving	I work hard	5.21	.95	.85	.04
12. C5: Self-discipline	I get chores done right away	4.84	1.15	.88	.07
13. C6: Cautiousness	I avoid mistakes	4.62	.94	.73	-.10
14. E1: Friendliness	I make friends easily	4.64	1.24	.91	.18**
15. E2: Gregariousness	I love large parties	4.15	1.34	.90	.30**
16. E3: Assertiveness	I try to lead others	4.29	.99	.81	.06
17. E4: Activity level	I react quickly	4.12	.73	.67	-.05
18. E5: Excitement seeking	I am willing to try anything once	4.10	1.15	.84	.35**
19. E6: Cheerfulness	I look at the bright side of life	5.09	.89	.80	.17*
20. A1: Trust	I think that all will be well	4.71	1.12	.89	.22**
21. A2: Morality	I stick to the rules	4.61	1.26	.89	-.19**
22. A3: Altruism	I anticipate the needs of others	5.03	1.02	.83	-.04
23. A4: Cooperation	I can't stand confrontations	4.54	1.03	.79	-.19**

J Pers Soc Psychol. Author manuscript; available in PMC 2013 June 06.

Variable	Sample item	Mean	SD	α	r_{DAM}
24. A5: Modesty	I dislike being the center of attention	3.96	.99	.77	-.27**
25. A6: Sympathy	I suffer from others' sorrows	4.68	1.05	.84	-.10
26. N1: Anxiety	I am afraid of many things	3.64	1.27	.90	-.17*
27. N2: Anger	I lose my temper	3.43	1.16	.89	-.07
28. N3: Depression	I feel that my life lacks direction	3.13	1.28	.90	.03
29. N4: Self-consciousness	I am easily intimidated	3.70	1.01	.80	-.10
30. N5: Immoderation	I often eat too much	3.76	.94	.79	-.03
31. N6: Vulnerability	I become overwhelmed by events	3.23	1.01	.85	-.06
32. Attitude (microwave)		4.29	1.56	.95	.35**
33. Attitude (getting vaccine shots)		4.64	1.72	.75	.38**
34. Attitude (recycling)		5.92	1.26	.87	.17*

Notes: α = Cronbach's alpha.

* $p < .05$.

** $p < .01$. r_{DAM} is the correlation with the DAM.

J Pers Soc Psychol. Author manuscript; available in PMC 2013 June 06.

Table 10

Multiple regression statistics predicting both dispositional and novel attitudes in Study 4.

Variable	DAM		Novel attitude	
	B (*S.E.*)	β	*B* (*S.E.*)	β
1. DAM	-	-	.32 (.16)	.15*
2. O1: Imagination	-.15 (.07)	-.20*	-.27 (.14)	-.17*
3. O2: Artistic	.07 (.06)	.11	.05 (.13)	.03
4. O3: Emotionality	-.01 (.08)	-.01	.06 (.17)	.03
5. O4: Adventurousness	.07 (.09)	.08	-.05 (.18)	-.03
6. O5: Intellect	.16 (.07)	.23*	-.03 (.14)	-.02
7. O6: Liberalism	-.10 (.06)	-.13	-.20 (.12)	-.12
8. C1: Efficacy	-.11 (.10)	-.15	-.02 (.20)	-.02
9. C2: Orderliness	-.01 (.07)	-.02	.05 (.14)	.03
10. C3: Dutifulness	-.10 (.10)	-.16	.08 (.20)	.06
11. C4: Achievement striving	.05 (.09)	.06	-.15 (.18)	-.09
12. C5: Self-discipline	.08 (.10)	.12	.06 (.19)	.04
13. C6: Cautiousness	.11 (.09)	.14	.00 (.18)	.00
14. E1: Friendliness	.03 (.07)	.05	.03 (.15)	.02
15. E2: Gregariousness	.02 (.07)	.04	-.09 (.13)	-.07
16. E3: Assertiveness	-.16 (.08)	-.22*	.08 (.16)	.05
17. E4: Activity level	-.15 (.08)	-.15	.09 (.17)	.04
18. E5: Excitement seeking	.07 (.07)	.11	.36 (.14)	.26**
19. E6: Cheerfulness	.08 (.09)	.09	-.19 (.18)	-.11
20. A1: Trust	.14 (.07)	.21*	.44 (.14)	.31**
21. A2: Morality	-.04 (.07)	-.06	-.29 (.15)	-.23
22. A3: Altruism	.11 (.10)	.15	-.19 (.21)	-.13
23. A4: Cooperation	-.17 (.08)	-.24*	-.17 (.16)	-.11
24. A5: Modesty	-.05 (.07)	-.07	.01 (.15)	.00
25. A6: Sympathy	-.07 (.08)	-.10	.19 (.17)	.12
26. N1: Anxiety	-.07 (.07)	-.12	-.08 (.14)	-.07
27. N2: Anger	-.01 (.07)	-.02	.19 (.15)	.14
28. N3: Depression	.12 (.07)	.21	.18 (.14)	.15
29. N4: Self-consciousness	-.05 (.08)	-.06	.13 (.17)	.09
30. N5: Immoderation	.04 (.08)	.05	-.30 (.16)	-.18
31. N6: Vulnerability	.00 (.11)	.00	-.04 (.22)	-.03
$R^2_{Adjusted}$		.19		.29

Notes

* $p < .05$.

** $p < .01$. r_{DAM} is the correlation with the DAM.