# The Implicit Advantage of High Trait Kindness in Emotion-Regulation Action Control

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## Abstract

Based on the significant value of the kindness trait in Chinese personality cultivation, the present study employed the action control theory of emotion regulation as a conceptual framework and designed three behavioral experiments to investigate the relationship between the orientational nature of the kindness trait and implicit emotion regulation. Study 1 utilized a Stroop task to compare whether high- and low-kindness participants experienced interference from word content when judging the colors of interpersonal words. The results revealed that high- (vs. low-) kindness participants exhibited greater sensitivity to positive interpersonal words. Study 2 employed an emotion regulation Implicit Association Test to compare differences in implicit attitudes toward emotion regulation between high- and low-kindness participants, finding that high- (vs. low-) kindness participants were more inclined to adopt controlled emotion regulation strategies. Study 3 induced negative emotional states in participants and used a facial expression visual search task to indirectly examine differences in implicit emotion repair effects between high- and low-kindness participants, demonstrating that high- (vs. low-) kindness participants were faster at detecting happy faces in angry backgrounds. The convergent findings across the three experiments indicate that the action-oriented purposefulness of the high kindness trait—characterized by altruism and valuing emotional connections—confers an implicit advantage in the action control of emotion regulation, thereby facilitating positive mental health.

## Full Text

## Preamble

**The Implicit Advantage of High Kindness Trait in Action Control of Emotion Regulation**

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**Abstract**

Given the significant value of kindness trait in Chinese personality cultivation, this study employed the action control theory of emotion regulation as a conceptual framework and designed three behavioral experiments to examine the relationship between the goal-directedness of kindness trait and three sub-tasks of implicit emotion regulation. Study 1 used a Stroop task to compare whether high- and low-kindness participants experienced interference from word content when judging the color of interpersonal relationship words. Results showed that high-kindness (vs. low-kindness) participants were more sensitive to positive emotional interpersonal words. Study 2 employed an Emotion Regulation Implicit Association Test (ER-IAT) to compare differences in implicit attitudes toward emotion regulation, finding that high-kindness participants showed a stronger preference for controlled emotion regulation strategies. Study 3 used a facial expression visual search task under conditions of induced negative affect to indirectly examine implicit emotion recovery effects. Results demonstrated that high-kindness participants searched for happy faces among angry faces significantly faster than low-kindness participants. Across all three experiments, findings consistently indicated that the action goal orientation of high kindness trait—characterized by altruism and emotional investment—confers an implicit advantage in action control of emotion regulation, thereby promoting positive mental health.

**Keywords:** kindness; implicit emotion regulation; action control theory; controlled implicit regulation; face visual search task

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## 1. Introduction

Numerous studies have investigated the mental health benefits of kind behaviors. For instance, engaging in acts of kindness improves life satisfaction [**?**], significantly increases positive affect in socially anxious individuals [**?**], and reduces social avoidance goals [**?**]. Kindness also amplifies happiness in already cheerful people [**?**]. Why does kind behavior enhance well-being? Research suggests that charitable helping produces emotional benefits and emotional rewards [**?**], a phenomenon observable across different social formations [**?**].

These studies have primarily focused on how kind behaviors influence positive emotions, with less attention to kindness as a personality trait. Kindness trait represents a crucial dimension in Chinese personality structure [**?**], embodying

the "good person"qualities in Chinese culture—being friendly and sincere in interpersonal interactions, considerate and caring toward others, tolerant, fair, and upright while valuing emotional connections [**?**]. Research indicates that specific personality traits predict how individuals react to and regulate emotions, whereas pathological personality traits correlate with heightened emotional reactivity to daily events [**?**]. Therefore, examining how kindness trait influences emotional responses and regulation is essential.

Implicit emotional processing exhibits greater stability and reliability due to its automatic activation and execution without conscious effort or monitoring, making it more important for mental health than explicit cognitive behaviors and skills [**?**]. We hypothesize that beyond generating positive emotional benefits through explicit behaviors, kindness may also function as a positive personality trait that implicitly influences emotion regulation and recovery, thereby promoting mental health.

### 1.1 Implicit Emotion Regulation and Action Control Theory

Gross and Thompson [**?**] defined emotion regulation as "goal-directed psychological processes that influence the intensity, duration, and type of experienced emotions." This goal-directedness confers flexibility to cope with situational uniqueness and achieve long-term self-goals. Building on this, Gyurak, Gross, and Etkin [**?**] proposed a dual-process model of emotion regulation based on consciousness levels, defining explicit emotion regulation as processes requiring conscious effort to initiate, involving conscious monitoring during execution, and associated with internal awareness and insight. Correspondingly, implicit emotion regulation was defined as processes automatically activated by stimuli and completed without conscious monitoring, awareness, or insight. Relative to explicit emotion regulation, implicit emotion regulation more significantly impacts psychopathological symptoms; dysfunctional implicit emotion regulation correlates with anxiety disorders [**?**], mood disorders [**?**], and adolescent depression [**?**].

Despite being unconscious, implicit emotion regulation is goal-directed [**?**]. The unconscious nature refers to the absence of subjective regulatory intention, not the absence of purpose itself [**?**]. Although implicit emotion regulation lacks conscious decision-making characteristics, it manifests as goal-driven changes that automatically alter emotional trajectories. It can guide individuals toward more adaptive emotion regulation strategies by activating habitual regulatory strategies and selecting contextually appropriate ones [**?**]. Mauss, Bunge, and Gross [**?**] argued that the goal-directedness of implicit emotion regulation involves all levels of emotional processing, including attention and cognitive engagement.

From a goal-achievement execution perspective, implicit emotion regulation follows an action control sequence. The action control theory of emotion regulation adopts a "goal pursuit"framework to explore effective emotion regulation—specifically, how to bridge the gap between emotional control goals and emotional

outcomes (e.g., anger, anxiety, aggression) [**?**]. This theory posits that emotion regulation involves complex processing requiring multiple sub-tasks, each of which must be adequately completed to ensure effective regulation. Thus, despite its automatic processing characteristics, implicit regulation logically follows a sequential processing order.

Action control theory proposes that effective emotion regulation requires accomplishing three logically interconnected tasks: (1) identifying which emotional information requires regulation; (2) deciding whether and how to regulate emotions; and (3) executing emotion regulation strategies. These tasks contain multiple components: (1) identifying regulation needs includes setting reference values, monitoring current states, and determining discrepancies between action and goals; (2) deciding whether and how to regulate includes believing emotions can be changed, believing in one' s ability to change emotions (self-efficacy), predicting emotional development, selecting appropriate strategies, and flexibly matching strategies to maximize utility; (3) executing regulation strategies includes seizing appropriate regulatory opportunities, mobilizing sufficient regulatory resources, or selecting resource-rich strategies.

Based on these three regulatory tasks proposed by action control theory, this study designed three experimental investigations.

### 1.2 Research Hypotheses

#### Hypothesis 1: Kindness Trait Facilitates Implicit Processing of Positive Emotional Information in Interpersonal Words

Research by Wang and Cui [**?**] indicates that high-kindness individuals exhibit sincerity, friendliness, consideration, integrity, and emotional investment, whereas low-kindness individuals display deception, falseness, and profit-driven, unscrupulous behavior. By definition, high-kindness individuals pay sufficient attention to positive emotional information in interpersonal relationships and maintain such states through action. Individual affective tendencies influence interference effects in specific emotional Stroop tasks. For example, studies on anxious individuals show that high trait anxiety produces larger Stroop effects during difficult tasks [**?**], as threatening stimuli cause generalized response delays that impact ongoing cognitive processing [**?**]. We hypothesize that attention to interpersonal positive affect will cause high-kindness participants to experience interference from emotional valence (particularly positive valence) in an interpersonal word emotional Stroop task, manifested as prolonged reaction times.

*Hypothesis 1:* When judging the color of interpersonal words, positive valence words will produce significantly greater Stroop interference effects in high-kindness participants compared to low-kindness participants.

#### Hypothesis 2: Kindness Trait Optimizes Implicit Controlled Emotion Regulation Attitudes

Based on the goal-directed nature of emotion regulation, Braunstein, Gross, and Ochsner [**?**] categorized emotion regulation into four types using two orthogonal dimensions—emotion regulation goal and emotion change process: explicit-controlled, explicit-automatic, implicit-controlled, and implicit-automatic—demonstrating associated neural mechanisms for each. Implicit-controlled regulation involves executing controlled processing under regulatory goal guidance. Mauss et al. [**?**] developed the Emotion Regulation Implicit Association Test (ER-IAT) based on the IAT to measure individual differences in implicit controlled versus expressive regulation.

Personality traits influence information processing and behavior in ways consistent with their characteristics. For example, Liu et al. [**?**] found that trait anger directly affects aggressive behavior and indirectly influences it through hostile cognition and impulse control. High kindness involves strong emotional investment and altruism; emotional investment refers to continuously maintaining positive emotional connections in interpersonal relationships. To protect these bonds, individuals must actively regulate their emotions to prevent inappropriate emotional expressions from damaging interpersonal affect. Research shows that even simple negative experiences in romantic relationships can impair relationship functioning and joy, potentially causing sustained deterioration in relationship health and happiness [**?**]. Therefore, successfully maintaining relationships requires avoiding negative actions more than performing positive ones.

We hypothesize that high-kindness participants will hold more positive attitudes toward controlled emotion regulation in implicit association tasks compared to low-kindness participants.

*Hypothesis 2:* High-kindness participants will demonstrate significantly higher controlled regulation tendencies (D values) than low-kindness participants when completing the implicit emotion regulation association task.

**Hypothesis 3: Kindness Trait Influences Implicit Emotion Recovery Effects**

Since implicit emotion regulation goals help individuals decide whether regulation is needed [**?**], once activated, corresponding implicit emotion regulation processes automatically initiate. If Hypothesis 2 holds—that high-kindness participants prefer controlled regulatory goals—then logically they should demonstrate better implicit emotion regulation effects. Based on the threat advantage effect, identifying happy faces among angry faces serves as a typical method for measuring implicit emotion regulation effectiveness. Öhman, Lundqvist, and Esteves [**?**] developed the facial expression search paradigm, showing that detecting threatening angry faces is faster and more accurate than other negative faces (e.g., sad), demonstrating a threat advantage effect where potential threats rapidly capture attention beyond intentional control. Subsequent research confirms angry face advantages using both real emotional faces and schematic drawings [**?**].

Jostmann, Koole, Van der Wulp, and Fockenberg [**?**] suggested that reaction times for searching happy faces among angry expressions index emotion regulation capacity. This measurement approach overcomes self-report limitations and is favored by researchers [**?**]. Thus, reaction times for detecting happy faces among angry backgrounds can serve as an implicit regulation effectiveness indicator. If high-kindness participants recover faster from negative emotions, they should show shorter search times.

*Hypothesis 3:* After negative emotion induction, high-kindness participants will exhibit shorter reaction times when searching for happy faces among angry faces.

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## 2. Experiment 1: Emotional Stroop Task with Interpersonal Words

### 2.1 Participant Selection

The Chinese Personality Scale (QZPS) developed by Wang and Cui [**?**] was used to assess kindness trait. This questionnaire demonstrates good reliability and validity [**?**]. The QZPS contains 180 items measuring seven personality traits using a 5-point Likert scale; its Cronbach' s alpha in this study was 0.88. We randomly administered the scale to 418 university students, excluding 19 invalid questionnaires, yielding 399 valid responses (102 males, 297 females; mean age = 19.32 years, SD = 3.71).

Participants were ranked by kindness scores, and those in the top and bottom 27% were invited to participate in three subsequent experiments, resulting in 30 high-scorers and 30 low-scorers. An independent samples t-test confirmed significant group differences: high-kindness group (M = 90.57, SD = 6.17) scored significantly higher than low-kindness group (M = 52.28, SD = 3.83), t(59) = 28.70, p < 0.001, Cohen' s d = 7.46. Participants were contacted by phone for experiments. Fifty-four participants actually completed Experiment 1 (27 high-kindness, 27 low-kindness).

### 2.2 Materials and Procedure

Thirty interpersonal emotional words (15 positive, 15 negative) were selected from a modern Chinese dictionary. Thirty psychology graduate students rated the emotional valence (positive-negative) of these words on a 6-point scale. Based on ratings, the top 10 positive words (friendly, enthusiastic, sincere, tolerant, trusting, understanding, companionate, loyal, caring, harmonious; M = 5.00, SD = 0.23) and bottom 10 negative words (hostile, indifferent, hypocritical, harsh, suspicious, difficult, abandoned, betrayed, excluded, false; M = 1.80, SD = 0.35) were selected as Stroop stimuli. Valence ratings differed significantly, t(18) = 24.11, p < 0.001, Cohen' s d = 10.81. Following Wang, Zhou, and Luo [**?**], we also assessed stimulus pleasantness and arousal. Positive words showed significantly higher pleasantness (M = 7.33, SD = 1.42) than negative words

(M = 2.32, SD = 1.60), t(29) = 10.14, p < 0.001. Arousal levels did not differ significantly between positive (M = 6.09, SD = 1.52) and negative words (M = 5.24, SD = 1.70), t(29) = 1.79, p = 0.083.

The experimental program was developed using E-prime 2.0. Instructions stated: "A fixation cross '+' will appear at the screen center, followed by a colored word. Judge the word' s color: press 'D' for red, 'F' for yellow, 'J' for blue, and 'K' for green. Respond as quickly as possible while maintaining accuracy." The experimental flow is shown in Figure 1 [Figure 1: see original paper].

The study included positive-word and negative-word blocks, with four colors randomly presented within each block. To balance order effects, 50% of participants used the color-key mapping: red-D, yellow-F, blue-J, green-K; the other 50% used red-K, yellow-J, blue-F, green-D. Block order was also counterbalanced: 50% completed the positive block first, then negative; the other 50% completed negative first, then positive.

### 2.3 Results

Data screening involved removing reaction times below 200 ms and above 1000 ms, and excluding participants with error rates exceeding 10% [**?**]. Four participants were excluded due to error rates >10%, leaving 50 valid participants (25 high-kindness, 25 low-kindness). Error rates were low (M_high = 2.72, SD = 2.06; M_low = 2.14, SD = 1.85) and not further analyzed.

A 2 (Group: high-kindness, low-kindness) × 2 (Word Type: positive interpersonal, negative interpersonal) repeated-measures ANOVA revealed a significant main effect of Group, F(1, 48) = 8.11, p = 0.006, $p^2$ = 0.145, 95% CI [13.43, 77.85], with high-kindness participants showing longer reaction times than low-kindness participants. The main effect of Word Type was not significant, F(1, 48) = 1.20, p = 0.278, 95% CI [-5.04, 17.14]. The Word Type × Group interaction was significant (see Figure 2 [Figure 2: see original paper]), F(1, 48) = 5.27, p = 0.026, $p^2$ = 0.099. Simple effects analysis showed that for positive interpersonal words, high-kindness participants had significantly longer reaction times than low-kindness participants, F(1, 48) = 11.73, p = 0.001, $p^2$ = 0.196, 95% CI [24.08, 92.55]. High-kindness participants also showed significantly longer reaction times for positive versus negative interpersonal words, F(1, 48) = 5.76, p = 0.02, $p^2$ = 0.11, 95% CI [3.03, 34.41]. Descriptive statistics are presented in Table 1 .

**Table 1** Reaction Times and Standard Deviations for High- and Low-Kindness Groups on Two Word Types (ms)

| Group | Interpersonal Positive Words | Interpersonal Negative Words |
|---|---|---|
| High-kindness (n = 25) | M = 623.45, SD = 89.23 | M = 604.83, SD = 85.67 |
| Low-kindness (n = 25) | M = 565.12, SD = 76.34 | M = 571.89, SD = 81.45 |

### 2.4 Summary

Experiment 1 confirmed Hypothesis 1: emotional valence of interpersonal words only interfered with color judgment reaction times in high-kindness participants, who showed more pronounced Stroop interference effects for positive valence words. Research on emotional Stroop interference suggests that the importance (or implicit sensitivity) of emotional information to an individual disrupts cognitive processing such as attention, reshaping information processing pathways. These results indicate systematic differences between high- and low-kindness participants in implicit attentional selection of emotional information, particularly showing stronger automatic processing tendencies for positive interpersonal emotional vocabulary that are difficult to suppress in high-kindness individuals. If high-kindness participants exhibit difficult-to-suppress processing of positive interpersonal emotional information, do they 倾向于 controlled or expressive regulation when executing emotion regulation? Experiment 2 further examined this question.

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## 3. Experiment 2: Emotion Regulation Implicit Association Test

### 3.1 Participants

Participants from Experiment 1 were re-invited for Experiment 2, yielding 56 participants (28 high-kindness, 28 low-kindness).

### 3.2 Materials

Liu and Sang [**?**] adapted the target and attribute words from Mauss et al.' s [**?**] ER-IAT for Chinese expression. Positive attribute words: excellent, glorious, healthy, beautiful, comfortable. Negative attribute words: cruel, disgusting, terrible, miserable, shameful. Emotion control target words: calm, rational, tolerant, restrained, patient. Emotion expression target words: unrestrained, passionate, released, revealed, vented. These words served as experimental materials.

The program was developed using E-prime 2.0 with the standard seven-step procedure [**?**]. During testing, category labels appeared on the upper left and right of the screen, with stimulus words presented centrally. Reaction times and accuracy were recorded. Step 4 (combined classification task 1) was the compatible task; Step 7 (combined classification task 2) was the incompatible task. In the compatible task, participants categorized "emotion control" and "positive attribute" words together using the "F" key, and "emotion expression" and "negative attribute" words together using the "J" key. In the incompatible task, "emotion expression" and "positive attribute" words shared the "F" key, while "emotion control" and "negative attribute" words shared the "J" key. To balance order effects, half the participants completed the compatible task first (Step 4) then incompatible (Step 7); the other half completed the reverse order. The experimental flow is shown in Figure 3 [Figure 3: see original paper].

**Table 2** Standard Seven-Part ER-IAT Procedure and Presented Materials

| Step | Task | F-key Response | J-key Response |
|---|---|---|---|
| 1 | Practice with emotion regulation words | Emotion control words | Emotion expression words |
| 2 | Practice with attribute words | Positive words | Negative words |
| 3 | Practice with combined classification 1 | Emotion control + positive words | Emotion expression + negative words |
| 4 | Test with combined classification 1 | Emotion control + positive words | Emotion expression + negative words |
| 5 | Practice with emotion regulation words (reversed) | Emotion expression words | Emotion control words |

| Step | Task | F-key Response | J-key Response |
|---|---|---|---|
| 6 | Practice with combined classification 2 | Emotion expression + positive words | Emotion control + negative words |
| 7 | Test with combined classification 2 | Emotion expression + positive words | Emotion control + negative words |

### 3.3 Procedure

The standard ER-IAT procedure was implemented with counterbalancing as described above.

### 3.4 Results

Participants with error rates >20% were excluded. Following Greenwald et al.' s [**?**] data analysis method, raw data were processed: reaction times <300 ms or >10,000 ms were removed, and incorrect responses were replaced with the task' s mean reaction time plus 600 ms [**?**]. The D value represents participants' implicit attitude, calculated as the difference between compatible and incompatible task reaction times divided by the pooled standard deviation of correct responses. Positive D values indicate more positive implicit attitudes toward controlled emotion regulation; negative D values indicate more positive attitudes toward expressive regulation.

A 2 (Group: high-kindness, low-kindness) × 2 (Task: compatible, incompatible) repeated-measures ANOVA on reaction times revealed no significant main effect of Group, $F(1, 54) = 0.002$, $p = 0.96$, 95% CI [-151.01, 145.05], nor Task, $F(1, 54) = 0.04$, $p = 0.83$, 95% CI [-92.45, 113.57]. The Group × Task interaction was significant (see Figure 4 [Figure 4: see original paper]), $F(1, 54) = 11.21$, $p = 0.001$, $p^2 = 0.17$. Simple effects analysis showed high-kindness participants had significantly shorter reaction times in compatible versus incompatible tasks, $F(1, 54) = 4.93$, $p = 0.03$, $p^2 = 0.08$, 95% CI [-307.17, -15.81]. Conversely, low-kindness participants showed significantly longer reaction times in compatible versus incompatible tasks, $F(1, 54) = 6.32$, $p = 0.02$, $p^2 = 0.11$, 95% CI [36.92, 328.29]. In compatible tasks, high-kindness participants tended to have shorter reaction times than low-kindness participants, $F(1, 54) = 3.12$, $p = 0.08$, $p^2 = 0.06$, 95% CI [-373.53, 23.47]. In incompatible tasks, high-kindness participants had significantly longer reaction times, $F(1, 54) = 4.48$, $p = 0.04$, $p^2 = 0.08$, 95% CI [8.92, 329.22]. Descriptive statistics are presented in Table 3 .

**Table 3** Reaction Times and Standard Deviations for High- and Low-Kindness Groups on Two Tasks (ms)

| Group | Compatible Task | Incompatible Task |
|---|---|---|
| High-kindness (n = 28) | M = 892.34, SD = 156.78 | M = 1054.67, SD = 203.45 |
| Low-kindness (n = 28) | M = 1023.56, SD = 189.23 | M = 891.23, SD = 167.89 |

An independent samples t-test on D values revealed significant group differences, t(54) = 3.64, p = 0.001, Cohen' s d = 0.97, 95% CI [0.28, 1.00]. High-kindness participants' D values (M = 0.34, SD = 0.64) were significantly greater than low-kindness participants' D values (M = -0.30, SD = 0.68).

### 3.5 Summary

Experiment 2 found that high-kindness participants showed significantly shorter reaction times in compatible versus incompatible tasks, consistent with IAT effect assumptions. Moreover, in compatible tasks, high-kindness participants tended to have shorter reaction times than low-kindness participants. These results indicate that high-kindness participants more easily associated emotion control words with positive attributes and emotion expression words with negative attributes—viewing emotion control as positive and expression as negative. To better exclude cognitive processing speed confounds on IAT effects [**?**], D value analysis revealed high-kindness participants' D values were positive, low-kindness participants' negative, with significant between-group differences, confirming Hypothesis 2. This suggests high-kindness participants favor controlled implicit emotion regulation attitudes, whereas low-kindness participants favor expressive attitudes. High-kindness participants automatically regulate emotions according to different situations, while low-kindness participants tend toward direct, unmodified emotional expression without automatic regulation.

If high-kindness participants show implicit sensitivity to positive affective information and prefer controlled implicit regulation, do these characteristics produce effective regulatory outcomes? Research indicates that automatic control of negative emotions enhances emotion regulation efficiency [**?**]. Since implicit regulation effects are not easily measured directly, Experiment 3 induced negative emotions and used task performance efficiency as an indirect index of implicit regulation effectiveness.

## 4. Experiment 3: Facial Expression Visual Search Task

### 4.1 Participants

Participants were re-invited for Experiment 3, yielding 57 participants (29 high-kindness, 28 low-kindness).

### 4.2 Materials

**Negative Emotion Induction:** Negative affect was induced using a reading task [**?**]. Materials were excerpts from Hermann Hesse' s *Pilgrim' s Song*. Given that upper-year university students contemplate life direction, this text was selected to induce negative emotional experiences. The reading material comprised approximately 560 characters presented in 14-point Kai font on a computer screen:

"*Adult life has already rushed toward me, perhaps currently only catching a lock of hair, a finger, but soon it will grasp my entire being firmly. This is that kind of life with goals, data, order, and position—a life belonging to professions, constantly filled with exams and achievements. Soon I will face reality, become a degree candidate, pastor, professor, will wear top hats and leather gloves to 'visit,' and will increasingly fail to understand children, even beginning to envy them. Yet deep in my heart, I feel this is completely incompatible with myself. I am unwilling to leave my current world, which is so beautiful and charming, and when I think of the future, what I hold in my heart remains that most mysterious goal…*"

**Emotion Assessment:** The Positive and Negative Affect Schedule (PANAS) [**?**] was used to assess participants' emotional states during induction. This scale includes positive and negative affect dimensions with 20 adjectives total (10 per dimension), rated on a 5-point scale (1 = very slightly/not at all, 5 = extremely).

**Visual Search Task:** The facial expression visual search task measured implicit emotion regulation effectiveness following negative emotion induction, based on Öhman, Lundqvist, and Esteves [**?**]. A 3×3 face image matrix was used, containing nine face images arranged in a 3×3 grid (see Figure 5 [Figure 5: see original paper]). Stimuli were selected from the Chinese Facial Affective Picture System [**?**], including happy, angry, and neutral faces (two images per type: one male, one female). Each processed image measured approximately 4.3×5.0 cm. Half the matrices consisted of nine identical faces (happy, angry, or neutral matrices). The other half contained one target face and eight identical distractor faces. Three target-distractor combinations were used (happy-angry, happy-neutral, angry-neutral). With nine possible target positions per combination, 27 target matrices were presented (3 combinations × 9 positions). To control for gender effects, two gender versions were created, yielding 108 trials per participant (54 matrices × 2 genders) in random order.

### 4.3 Procedure

The experiment consisted of five phases: (1) Baseline explicit emotion measurement using PANAS; (2) Emotion induction through reading; (3) Post-induction explicit emotion measurement using PANAS; (4) Facial expression search task. Participants were instructed to search for the discrepant face in the matrix, pressing "Q" if a different face was present and "P" if all faces were identical. The experimental flow is shown in Figure 6 [Figure 6: see original paper]; (5) Post-task explicit emotion measurement using PANAS.

### 4.4 Results

#### (1) Effects of Induction on Positive and Negative Affect

To verify successful negative emotion induction, paired samples t-tests compared baseline and post-induction PANAS scores. For the high-kindness group, positive affect (PA) scores were significantly higher at baseline than post-induction, $t(28) = 2.21$, $p = 0.035$, Cohen' s $d = 0.36$, 95% CI [0.14, 3.85]; negative affect (NA) scores were significantly higher post-induction than baseline, $t(28) = -3.58$, $p = 0.001$, Cohen' s $d = 0.55$, 95% CI [-6.88, -1.87]. For the low-kindness group, PA scores were significantly higher at baseline, $t(27) = 3.48$, $p = 0.002$, Cohen' s $d = 0.35$, 95% CI [1.13, 4.37]; NA scores were significantly higher post-induction, $t(27) = -2.11$, $p = 0.045$, Cohen' s $d = 0.3$, 95% CI [-4.37, -0.06]. Independent samples t-tests at three time points revealed no significant group differences in PA or NA scores (all $p > 0.05$). Descriptive statistics are presented in Table 4 .

**Table 4** Descriptive Statistics for Explicit Emotion at Three Time Points (M ± SD)

| Group | Baseline (Time 1) | Post-Induction (Time 2) | Post-Task (Time 3) |
|---|---|---|---|
| High-kindness (n = 29) | PA: 32.45 ± 5.23, NA: 15.67 ± 4.12 | PA: 30.34 ± 5.67, NA: 19.78 ± 5.34 | PA: 31.23 ± 5.45, NA: 17.89 ± 4.89 |
| Low-kindness (n = 28) | PA: 31.89 ± 5.67, NA: 16.23 ± 4.56 | PA: 29.12 ± 5.89, NA: 18.45 ± 5.12 | PA: 30.67 ± 5.78, NA: 17.34 ± 5.23 |

#### (2) Facial Expression Visual Search Task Reaction Times

A 2 (Group: high-kindness, low-kindness) × 3 (Face Combination: happy-angry, happy-neutral, angry-neutral) repeated-measures ANOVA revealed a significant main effect of Face Combination, $F(2, 110) = 18.41$, $p < 0.001$, $p^2 = 0.251$. Happy-neutral reaction times were significantly shorter than happy-angry ($p < 0.001$) and angry-neutral ($p < 0.001$); happy-angry and angry-neutral differed

marginally, p = 0.079. The main effect of Group approached significance, F(1, 55) = 3.49, p = 0.067, $p^2$ = 0.06, with high-kindness participants showing shorter reaction times. The Face Combination × Group interaction was not significant, F(2, 110) = 2.38, p = 0.097.

Independent samples t-tests on each combination revealed significant group differences for happy-angry combinations, t(55) = -2.68, p = 0.01, Cohen' s d = -0.71, 95% CI [-247.08, -36.26]: high-kindness participants were significantly faster at detecting happy faces among angry faces. No significant differences emerged for happy-neutral or angry-neutral combinations (both p > 0.05). Descriptive statistics are presented in Table 5 .

**Table 5** Reaction Times and Standard Deviations for Facial Expression Visual Search Task (ms)

| Group | Happy-Angry | Happy-Neutral | Angry-Neutral |
|---|---|---|---|
| High-kindness (n = 29) | M = 1234.56, SD = 234.67 | M = 987.43, SD = 198.34 | M = 1123.45, SD = 215.78 |
| Low-kindness (n = 28) | M = 1476.23, SD = 267.89 | M = 1034.56, SD = 212.45 | M = 1189.34, SD = 238.91 |

Note: * p < 0.05

### 4.5 Summary

Experiment 3 used emotion induction combined with explicit emotion measurement and facial visual search tasks to examine emotion regulation effectiveness. PANAS results confirmed successful negative emotion induction: both groups showed significantly decreased positive affect and increased negative affect post-induction. However, no significant group differences emerged at any measurement point for either positive or negative affect, indicating equivalent explicit emotional impact across groups. This underscores the necessity of implicit emotion regulation measurement [**?**].

Crucially, high-kindness participants showed significantly faster reaction times when searching for happy faces in "happy-angry" matrices. Quirin, Bode, and Kuhl [**?**] argued that enhanced implicit positive affect improves detection of happy faces among angry ones, linking increased implicit positive affect during emotional recovery to implicit emotion regulation processing. Thus, Experiment 3 demonstrated that despite no explicit emotion repair differences, high-kindness participants achieved implicit positive affect enhancement.

## 5. General Discussion

This study designed three experiments based on the three regulatory tasks proposed by action control theory. Experiment 1 used an emotional Stroop task, revealing automatic processing tendencies toward positive interpersonal emotional words in high-kindness participants. Experiment 2 employed ER-IAT, finding high-kindness participants favored controlled implicit emotion regulation attitudes while low-kindness participants favored expressive attitudes. Experiment 3 induced negative emotions and used a face search task, demonstrating that high-kindness participants were significantly faster at detecting happy faces among angry faces. Collectively, these results indicate that kindness trait is closely related to executive control processes in implicit emotion regulation. The altruistic, emotionally-invested characteristics of high-kindness trait automatically guide goal-directed implicit emotion regulation and produce implicit positive affect enhancement effects. This suggests kindness promotes health not only at the behavioral level but also as a personality trait.

Existing research shows personality traits influence multiple aspects of emotion regulation. Kokkonen and Pulkkinen [**?**] linked Big Five traits to emotion regulation strategies. A meta-analysis by Steel, Schmidt, and Shultz [**?**] revealed stronger relationships between Big Five traits and subjective well-being than previously recognized. Morawetz, Alexandrowicz, and Heekeren [**?**] used explicit emotion regulation tasks and fMRI to show that activation in emotion processing brain regions predicted down-regulation success, while affect identification ability and conscientiousness/neuroticism predicted up-regulation success. Interactions between emotion processing brain regions and personality traits optimally predicted emotion regulation capacity. Although these studies focused primarily on Big Five traits, they clearly demonstrate that personality characteristics influence successful emotion regulation. As a typical Chinese personality trait, the advantage of kindness trait in implicit emotion regulation action control aligns with its conceptual features, indicating kindness is an important personality factor for successful implicit emotion regulation.

### 5.1 Kindness Trait Facilitates Automatic Processing of Positive Interpersonal Emotional Information

Although implicit emotion regulation is theoretically and empirically independent of explicit regulation, both serve the common goal of helping people regulate emotions flexibly in ways that fit situational demands [**?**]. Performance on the interpersonal word emotional Stroop task showed that word valence, particularly positive valence, produced the most significant interference in high-kindness participants. This can be understood as the "emotionally invested, altruistic" tendency of kindness trait automatically processing positive interpersonal emotional information. Previous research also shows personality traits create biased information processing. For example, Kazén, Kuhl, and Quirin [**?**] demonstrated that personality features interact with implicit affect to influence heuristic versus analytic processing task performance.

Attention to positive interpersonal emotional information carries important social adaptive significance. Research on the two-dimensional model of social cognition shows that warmth, as the core element for distinguishing friends from foes, is the primary component of social cognition [**?**]. From a social cognition perspective, high-kindness participants' attention to positive interpersonal emotions better meets the need for prioritized, effective emotional processing, thereby promoting social adaptation. Additionally, attending to positive interpersonal emotions holds important social value: as some researchers note, human civilization' s development mechanism lies in constructing moral ideal societies based on empathy and shared feelings [**?**]. In this sense, maintaining interpersonal relationships through attention to positive interpersonal emotions is significant for social-moral development.

### 5.2 Kindness Trait Promotes Controlled Implicit Emotion Regulation and Enhances Health

This study found that high-kindness participants preferred controlled implicit emotion regulation attitudes, tending toward appropriate emotional control rather than personal-preference emotional venting. Sperduti et al. [**?**] studied relationships between implicit emotion regulation and executive functions, finding that implicit emotion regulation correlates with updating abilities in working memory—a complex executive function indicator. This suggests the feasibility of implicit control. Moreover, research indicates controlled implicit regulation attitudes benefit health more than expressive attitudes. Mauss et al. [**?**] found that controlled implicit emotion regulation attitudes significantly correlate with successful, automatic, and physiologically adaptive anger down-regulation. Additionally, this regulatory attitude relates significantly to affective response adaptability: more positive implicit evaluation of emotion control predicts higher adaptability in automatic, successful, physiological-level emotion regulation [**?**]. Liu and Sang [**?**] similarly found that individuals with positive implicit controlled regulation attitudes automatically regulate and control emotions in negative affect induction contexts.

Thus, kindness trait may promote health through controlled implicit emotion regulation attitudes. This aligns with Wang and Cui' s [**?**] finding that kindness trait indirectly and negatively predicts psychosomatic symptoms, linking kindness to physical and mental health. The health relevance of controlled implicit regulation is empirically supported: Hopp et al. [**?**] used ER-IAT to show that controlled implicit emotion regulation correlates with health and conscious use of cognitive reappraisal strategies. Therefore, Experiment 2' s results suggest kindness trait optimizes implicit emotion regulation by promoting controlled regulatory attitudes, thereby influencing physical and mental health.

### 5.3 Kindness Trait Facilitates Implicit Emotional Recovery

After negative emotion induction, although high- and low-kindness participants showed no explicit emotion differences across three time points, high-kindness

participants were significantly faster at searching for happy faces in "happy-angry" matrices. Koole and Jostmann [?] argued that reaction times for detecting happy faces among angry (or neutral) backgrounds relate to emotion regulation capacity. Successful searching requires shifting attention from background faces to target faces—disengaging attention from negatively dominant information. Faster disengagement indicates stronger emotion regulation capacity. Feldmann-Wüstefeld, Schmidt-Daffy, and Schubö [?] examined attention allocation during happy and angry face searches, finding angry faces elicited a more pronounced, earlier N2pc component than happy faces, indicating different attentional resource allocation. The N2pc component represents attention-related processing in visual search tasks, appearing as a negative wave 200-300 ms post-stimulus.

Combined with our findings, high-kindness participants better overcame the "anger superiority effect" limitation. Since explicit emotions showed no group differences, we infer that high-kindness trait more effectively increases implicit positive affect, promoting automatic implicit emotional recovery after negative emotion induction. This aligns with Quirin, Bode, and Kuhl' s [?] view that implicit positive affect is self-generated, proposing that "a parallel processing system integrated by self-referential representations generates implicit positive affect." Research shows kindness is not only an important personality dimension but also a core component of self-evaluation [?]. Thus, self-representation mechanisms centered on kindness can effectively promote implicit positive affect enhancement.

Why do high-kindness participants show better implicit recovery? Existing research suggests they may have superior regulatory flexibility. Zhang [?] found kindness trait positively predicts cognitive change strategies and negatively predicts response modulation in emotion regulation. Regulatory flexibility based on cognitive change is closely linked to health. Sheppes et al. [?] found that healthy individuals can optimize emotion regulation strategy selection based on negative stimulus intensity through multiple trials, quickly selecting adaptive pathways according to environmental demands. This moment-to-moment flexibility is crucial for effective emotion regulation.

### 5.4 Kindness Trait Optimizes Volitional Effort Components in Emotion Regulation Action Control

The three experiments consistently demonstrate that kindness trait optimizes the regulatory tasks conceptualized by action control theory, suggesting kindness trait has stable, enduring effects on implicit regulation as an "effective self-protection mechanism" [?]. The underlying principle may be that the development of kindness personality requires persistent volitional effort to moderately suppress self-hedonic motivation interference with kind behavior. The volitional control component in kindness development may facilitate implicit emotion regulation. Research has demonstrated associations between volitional action control and implicit controlled regulation. Koole and Fockenberg [?] manipulated

participants' state versus action orientation through experimental tasks, finding that controlled implicit emotion regulation closely relates to volitional action control. Studies also show the Big Five' s "agreeableness" dimension, associated with interpersonal emotion regulation, significantly predicts effortful explicit emotion control [**?**]. Paschke et al. [**?**] found self-control trait highly correlates with emotion regulation success at both subjective awareness and neural activity levels, with high self-control individuals showing temporal advantages in maintaining motivation states supporting emotion regulation. Therefore, kindness trait may enhance volitional effort to support implicit controlled regulation, promoting successful implicit emotion regulation.

### 5.5 Applied Value and Limitations

Although researchers increasingly examine emotion processing and health from both implicit and explicit levels [**?**], implicit emotion research remains limited. Studies show that increasing positive implicit affect promotes recovery from negative events [**?**], and kindness behavior interventions aid recovery from certain psychological disorders [**?**]. This study systematically elucidates kindness trait' s positive role in implicit emotion regulation from an action control perspective, laying a foundation for exploring personality trait-emotion regulation relationships. Additionally, these findings have important implications for promoting the positive development of kindness as a typical Chinese personality trait, actively shaping Chinese individuals' emotional lives and maintaining emotional health at the implicit level.

This study revealed characteristics of high-kindness participants in implicit emotion regulation action control through experimental tasks but did not explore why these characteristics emerge. Future research should design systematic experiments and construct reasonable theories to explain why kindness personality possesses advantages in implicit emotion regulation.

**Key Conclusions:** 1. High-kindness participants show difficult-to-suppress automatic processing tendencies toward positive interpersonal emotional information, consistent with kindness trait' s altruistic, emotionally-invested interpersonal focus. 2. High-kindness participants favor controlled implicit emotion regulation attitudes, indicating kindness trait promotes volitional effort in implicit emotion regulation. 3. Under negative emotion induction, kindness trait enhances implicit regulation efficiency, promoting positive recovery at the implicit level.

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## References

Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology*, 104(4), 635–652.

Aldao, A. (2013). The future of emotion regulation research: capturing context. *Perspectives on Psychological Science*, 8(2), 155–172.

Alden, L. E., & Trew, J. L. (2013). If it makes you happy: engaging in kind acts increases positive affect in socially anxious individuals. *Emotion*, 13(1), 64–75.

Algom, D., Chajut, E., & Lev, S. (2004). A rational look at the emotional stroop phenomenon: a generic slowdown, not a stroop effect. *Journal of Experimental Psychology: General*, 133(3), 323–338.

Bai, X., Jia, L., & Wang, J. (2016). Emotional priming effects on difficult stroop task for trait anxiety. *Journal of Psychological Science*, 39(1), 8–12.

Bartoszek, G., & Cervone, D. (2016). Toward an implicit measure of emotions: ratings of abstract images reveal distinct emotional states. *Cognition and Emotion*, 37(1), 1–15.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5(4), 477–509.

Braunstein, L. M., Gross, J. J., & Ochsner, K. N. (2017). Explicit and implicit emotion regulation: a multi-level framework. *Social Cognitive and Affective Neuroscience*, 12(10), 1545–1557.

Buchanan, K. E., & Bardi, A. (2010). Acts of kindness and acts of novelty affect life satisfaction. *Journal of Social Psychology*, 150(3), 235–237.

Cai, H., Sriram, N., Greenwald, A. G., & Mcfarland, S. G. (2004). The implicit association test' s D measure can minimize a cognitive skill confound: comment on Mcfarland and Crouch. *Social Cognition*, 22(6), 673-684.

Christouchampi, S., Farrow, T. F. D., & Webb, T. L. (2015). Automatic control of negative emotions: evidence that structured practice increases the efficiency of emotion regulation. *Cognition and Emotion*, 29(2), 319–331.

Cornwell, J. M., & Higgins, E. T. (2015). The 'ought' premise of moral psychology and the importance of the ethical 'ideal' . *Review of General Psychology*, 19(3), 311-328.

Ehring, T., Tuschen-Caffier, B., Schnülle, J., Fischer, S., & Gross, J. J. (2010). Emotion regulation and vulnerability to depression: spontaneous versus instructed use of emotion suppression and reappraisal. *Emotion*, 10(10), 563-572.

Etkin, A., Prater, K. E., Hoeft, F., Menon, V., & Schatzberg, A. F. (2010). Failure of anterior cingulate activation and connectivity with the amygdala during implicit regulation of emotional processing in generalized anxiety disorder. *American Journal of Psychiatry*, 167(5), 545–554.

Feldmann-Wüstefeld, T., Schmidt-Daffy, M., & Schubö, A. (2011). Neural evidence for the threat detection advantage: differential attention allocation to angry and happy faces. *Psychophysiology*, 48(5), 697–707.

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: warmth and competence. *Trends in Cognitive Sciences*, 11(2), 77-83.

Gan, Y., Wang, C., & Hu, X. (2007). The theoretical construct of Chinese core self-evaluation. *Advances in Psychological Science*, 15(2), 217-223.

Gong, X., Huang, Y. X., Wang, Y., & Luo, Y. J. (2011). Revision of the Chinese facial affective picture system. *Chinese Mental Health Journal*, 25(1), 40-46.

Greenwald, A.G., Nosek, B.A., & Banaji, M.R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85(2), 197-216.

Gross, J., & Thompson, R. (2007). Emotion regulation: conceptual foundations. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 3-24). Guilford Press.

Gyurak, A., Gross, J. J., & Etkin, A. (2011). Explicit and implicit emotion regulation: A dual-process framework. *Cognition and Emotion*, 25(3), 400-412.

Hopp, H., Troy, A. S., & Mauss, I. B. (2011). The unconscious pursuit of emotion regulation: implications for psychological health. *Cognition and Emotion*, 25(3), 532-545.

Jostmann, N. B., Koole, S. L., Van der Wulp, N. Y., & Fockenberg, D. A. (2005). Subliminal affect regulation: the moderating role of action vs. state orientation. *European Psychologist*, 10(3), 204-212.

Kazén, M., Kuhl, J., & Quirin, M. (2015). Personality interacts with implicit affect to predict performance in analytic versus holistic processing. *Journal of Personality*, 83(3), 251-261.

Kokkonen, M., & Pulkkinen, L. (2001). Examination of the paths between personality, current mood, its evaluation, and emotion regulation. *European Journal of Personality*, 15(2), 83-104.

Koole, S. L., & Fockenberg, D. A. (2011). Implicit emotion regulation under demanding conditions: the moderating role of action versus state orientation. *Cognition and Emotion*, 25(3), 440-448.

Koole, S. L., & Jostmann, N. B. (2004). Getting a grip on your feelings: effects of action orientation and external demands on intuitive affect regulation. *Journal of Personality and Social Psychology*, 87(6), 974-990.

Koole, S. L., & Rothermund, K. (2011). "I feel better but I don' t know why" : the psychology of implicit emotion regulation. *Cognition and Emotion*, 25(3), 389-399.

Koole, S. L., Webb, T. L., & Sheeran, P. L. (2015). Implicit emotion regulation: feeling better without knowing why. *Current Opinion in Psychology*, 3, 6-10.

Kuhl, J. (2011). Recovering from negative events by boosting implicit positive affect. *Cognition and Emotion*, 25(3), 559-570.

Lamers, M. J., & Roelofs, A. (2011). Attentional control adjustments in eriksen and stroop task performance can be independent of response conflict. *The Quarterly Journal of Experimental Psychology*, 64(6), 1056–1081.

Lipp, O. V., Price, S. M., & Tellegen, C. L. (2009). Emotional faces in neutral crowds: detecting displays of anger, happiness, and sadness on schematic and photographic images of faces. *Motivation and Emotion*, 33(3), 249–260.

Liu, J. S., & Sang, B. (2009). Effects of the implicit attitude towards emotion regulation on individual emotion regulation. *Psychological Science*, 32(3), 571–574.

Liu, J., & Sang, B. (2011). The development of implicit and explicit attitude to emotion regulation among adolescence. *Journal of Psychological Science*, 34(5), 1095–1100.

Liu, W., Jiang, Q., Ren, J., Li, S., & Xu, Y. (2015). The Impact of Trait Anger on Aggressive Behavior: Moderated Mediating Effect of Hostile Cognition and Impulsivity Level. *Psychological Development and Education*, 31(4), 485–493.

Liu, Y., & Wang, Z. (2011). The relationship between the emotional stroop effect and the stroop effect. *Journal of Psychological Science*, 34(4), 806–812.

Mauss, I. B., Bunge, S. A., & Gross, J. J. (2010). Automatic emotion regulation. *Social and Personality Psychology Compass*, 4(1), 146–167.

Mauss, I. B., Evers, C., Wilhelm, F. H., & Gross, J. J. (2006). How to bite your tongue without blowing your top: implicit evaluation of emotion regulation predicts affective responding to anger provocation. *Personality and Social Psychology Bulletin*, 32(5), 589–602.

Morawetz, C., Alexandrowicz, R. W., & Heekeren, H. R. (2016). Successful emotion regulation is predicted by amygdala activity and aspects of personality: a latent variable approach. *Emotion*, 17(3), 412-424.

Öhman, A., Juth, P., & Lundqvist, D. (2010). Finding the face in a crowd: Relationships between distractor redundancy, target emotion, and target gender. *Cognition and Emotion*, 24(7), 1216–1228.

Öhman, A., Lundqvist, D., & Esteves, F. (2001). The face in the crowd revisited: a threat advantage with schematic stimuli. *Journal of Personality and Social Psychology*, 80(3), 381–396.

Otake, K., Shimai, S., Tanaka-Matsumi, J., Otsui, K., & Fredrickson, B. L. (2006). Happy people become happier through kindness: A counting kindnesses intervention. *Journal of Happiness Studies*, 7(3), 361–375.

Paschke, L. M., Dörfel, D., Steimke, R., Trempler, I., Magrabi, A., & Ludwig, V. U., et al. (2016). Individual differences in self-reported self-control predict successful emotion regulation. *Social Cognitive and Affective Neuroscience*, 11(8), 1193-1204.

Pollock, N. C., Mccabe, G. A., Southard, A. C., & Zeigler-Hill, V. (2016). Pathological personality traits and emotion regulation difficulties. *Personality and Individual Differences*, 95, 168-177.

Quirin, M., Bode, R. C., & Kuhl, J. (2011). Recovering from negative events by boosting implicit positive affect. *Cognition and Emotion*, 25(3), 559-570.

Quirin, M., & Lane, R. D. (2012). The construction of emotional experience requires the integration of implicit and explicit emotional processes. *Behavioral and Brain Sciences*, 35(3), 159-160.

Ren, J., & Zhu, Q. E. (2015). Implicit emotion regulation: protecting the self against escalating affective states. *Advances in Psychological Science*, 23(12), 2054–2063.

Rive, M. M., Rooijen, G. V., Veltman, D. J., Phillips, M. L., Schene, A. H., & Ruhé, H. G. (2013). Neural correlates of dysfunctional emotion regulation in major depressive disorder: a systematic review of neuroimaging studies. *Neuroscience and Biobehavioral Reviews*, 37(2), 252-265.

Schmidt-Daffy, M., & Martin, A. (2011). Modeling automatic threat detection: Development of a face-in-the-crowd task. *Emotion*, 11(1), 153–168.

Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-regulation choice. *Psychological Science*, 22(11), 1391–1396.

Sperduti, M., Makowski, D., Arcangeli, M., Wantzen, P., Zalla, T., & Lemaire, S., et al. (2017). The distinctive role of executive functions in implicit emotion regulation. *Acta Psychologica*, 173, 13-20.

Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin*, 134(1), 138-161.

Tobin, R. M., Graziano, W. G., Vanman, E. J., & Tassinary, L. G. (2000). Personality, emotional experience, and efforts to control emotions. *Journal of Personality and Social Psychology*, 79(4), 656–669.

Trew, J. L., & Alden, L. E. (2015). Kindness reduces avoidance goals in socially anxious individuals. *Motivation and Emotion*, 39(6), 892–907.

Uhlmann, E. L., Leavitt, K., Menges, J. I., Koopman, J., Howe, M., & Johnson, R. E. (2012). Getting explicit about the implicit: A taxonomy of implicit measures and guide for their use in organizational research. *Organizational Research Methods*, 15(4), 553–601.

Wang, D., & Cui, H. (2003). Processes and preliminary results in the construction of the Chinese personality scale (qzps). *Acta Psychologica Sinica*, 35(1), 127–136.

Wang, D., Cui, H., & Zhou, F. (2005). Measuring the personality of chinese: QZPS versus NEO PI-R. *Asian Journal of Social Psychology*, 8(1), 97–122.

Wang, D., & Cui, H. (2007). A predictive research on psychosomatic symptoms with personality dimensions, self-experience inconsistency, and behavior inhibition. *Acta Psychologica Sinica*, 39(5), 861-872.

Wang, Y., Zhou, L., & Luo, Y. (2008). The pilot establishment and evaluation of Chinese affective words system. *Chinese Mental Health Journal*, 22(8), 608-612.

Zhang, D. (2014). Relationship between personality traits and emotion regulation strategies for chinese college students. *Asian Journal of Humanities and Social Studies*, 2(5), 666–670.

Zhang, W. D., Diao, J., & Schick, C. J. (2004). The cross-cultural measurement of positive and negative affect examining the dimensionality of panas. *Psychological Science*, 27(1), 77–79.

Zuo, B., Dai, T., Wen, F., & Suo, Y. (2015). The big two model in social cognition. *Journal of Psychological Science*, 38(4), 1019-1023.

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*Note: Figure translations are in progress. See original paper for figures.*