

AGREEABLENESS AND CLOSE RELATIONSHIPS: IS IT TRUST THAT REALLY  
MATTERS?

by

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## Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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## Abstract

Three correlational studies and 2 experiments examined the influence of agreeable people's trust on their close relationships. Studies 1-3 employed correlational methods to examine the association between agreeableness and interpersonal trust (felt security; Study 1) and the applicability of the dependence regulation model (Murray, Holmes, & Griffin, 2000) to the romantic relationships of agreeable people (Studies 2 & 3). Studies 4 and 5 employed experimental methods that manipulated felt security (trust) to examine how relationship threats differentially affect agreeable versus antagonistic people (those low in agreeableness). Results indicated that not only does felt security consistently mediate the association between agreeableness and important relationship quality variables, but that this is a causal association. That is, these studies provide evidence that agreeable people have better relationships than antagonistic people because they are chronically more trusting, and hence, less prone to seeing signs of rejection where none exists.

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## Introduction

Agreeableness is an individual difference in the motivation to maintain positive interpersonal relations with others (Graziano & Eisenberg, 1997). Agreeable people are described as being warm, kind, cooperative, unselfish, considerate, and trusting (Goldberg, 1992). Despite its apparent theoretical relevance to close relationships, the scope and importance of its association with relationship functioning has not been much explored. The purpose of this thesis is to examine the effect of agreeableness on the quality of experiences in close relationships and to identify the process through which agreeableness has its affect.

Although little research has explored the association between agreeableness and close relationships, the research that has been done tends to support the idea that it may be important for relationship functioning. In a meta-analysis of studies examining the Big 5 and marital satisfaction, Heller, Watson, and Illies (2004) found that in 18 studies that examined the association between self-reported agreeableness and marital satisfaction, the two correlated significantly at .24. For comparison, self-reported neuroticism, perhaps the most studied of the Big 5 when it comes to close relationships, correlated -.26 with marital satisfaction.

Although the above meta-analysis examined only one's own level of agreeableness and marital satisfaction, some research has investigated the association between agreeableness and one's partner's satisfaction. Watson, Hubbard, and Wiese (2000) found that partner ratings of participants' agreeableness predicted participants' relationship satisfaction for both married men and women, as well as dating men (but not dating women). Furthermore, the more agreeable male participants rated themselves, the more satisfied their wives or girlfriends were with their relationships. The other association – between women's agreeableness and men's satisfaction – was not significant. Finally, participants, regardless of gender or marital status, were more

satisfied in their relationship when they perceived their partner as being more agreeable, a finding that successfully replicated research by Botwin, Buss, and Shackelford (1997).

Although agreeableness seems to be associated with relationship quality, little research has directly examined why this may be the case. That is, by what process does agreeableness affect close relationships? One possibility is the impact agreeableness has on conflicts. In a study of elementary school children, Jensen-Campbell and Graziano (2001) found that agreeableness (either self-reported or as assessed by the childrens' teacher) was related to adolescents' conflict strategies. Agreeable children used more constructive strategies (e.g., compromise) and less destructive strategies (e.g., physical force and undermining others' esteem). Furthermore, among adults, Graziano, Jensen-Campbell, and Hair (1996) found through vignettes that agreeableness was negatively related to endorsing power assertion tactics in a conflict. Graziano et al. also found using observer ratings of a conflict in an unacquainted dyad that agreeableness was positively related to compromise tactics and negatively related to disengagement and power assertion. This evidence suggests that agreeableness may have its impact on relationships through its effect on conflict.

Why might agreeable people be more likely to use more constructive strategies during conflicts? One possibility is that agreeable people may be better able to control themselves when in a conflict situation. Some theorists and researchers have argued that agreeable people are generally better able to regulate their behaviour (Graziano & Eisenberg, 1997; Jensen-Campbell et al., 2002) and self-regulation has been causally associated with more constructive conflict resolution strategies (Finkel & Campbell, 2001). More specifically, Jensen-Campbell et al. (2002) found that both agreeableness and conscientiousness are positively associated with performance on the Stroop task and the Wisconsin Card Sort Task (WISC). These tasks are measures of

regulatory control because they involve suppressing a dominant response and replacing it with a subdominant response. So agreeable people may be better at controlling their reactions when they are upset with their partner (i.e., in a conflict situation). Even when motivated to do so, antagonistic people (those low in agreeableness) may not be able to control themselves as well as agreeable people and act constructively.

Although the research on self-regulation is intriguing and important, if self-regulation is a contributing factor to agreeable people's more satisfying relationships, it is likely only part of the story. Being better able to control oneself is good, but if one lacks the motivation to do so, all the self-regulatory resources in the world will not matter. Thus, to understand why agreeable people have more satisfying relationships than antagonistic people, we must look at their underlying motivations. Graziano and Eisenberg (1997) have proposed a definition of agreeableness that moves beyond simple structural definitions (e.g., kind, empathic, cooperative) to focus on their underlying social motivation. They argue that the behaviors associated with agreeableness can be explained by an underlying motivation to maintain positive relationships with others.

This prosocial motivation, they argue, may be the product of social learning histories and/or parental socialization that stressed prosocial action. Although they note that evidence for this is sparse, I feel they were on the right track. The perspective I take in this thesis is that underlying agreeable people's social motivation is their trust that others are basically good, and that their interactions with others will be rewarding. That is, agreeable people expect that they can depend on others to be warm and responsive to them. If they do not have this sense of security, (i.e., if they lack trust in their partner), they may not be as inclined to regulate their behaviour in such a prosocial manner. After all, regulating one's behaviour is, obviously, an effortful thing. Why expend the effort if one believes that it is all for naught?

### *The Dependence Regulation Model*

Murray, Holmes, and Griffin (2000) contend that people regulate attachment to their partner in a self-protective fashion. They feel closer to and see the best in their partner only when they feel their partner sees in them qualities worth loving. If they do not feel secure in their partner's regard for them, they will self-protectively "pull back," seeing fewer virtues in their partner and valuing their relationships less. This is done to proactively protect themselves from the pain of being rejected by their partner. However, these self-protective behaviors tend to harm relationships as they create a self-fulfilling prophecy. Few people would be satisfied in a relationship with a cold and distant partner.

This model, which Murray et al. (2000) have termed the dependence regulation model, explains why low self-esteem individuals have poorer relationships than high self-esteem individuals. A growing body of research indicates that people who feel valued by their partners do tend to have stronger, more satisfying relationships. In a daily diary study involving married couples, for example, people who chronically felt more positively regarded by their partner (and hence more secure) were buffered from the negative effects of temporary self-doubt and pulled closer to their partner (Murray, Bellavia, Rose, & Griffin, 2003). Further, when their partner was in a bad mood, chronically secure participants responded by pulling closer, but chronically insecure participants reported feeling rejected, hurt, and distant. The dependence regulation model, however, can explain not only why low self-esteem individuals have poorer relationships, but can explain why other individual difference variables associated with trust/security may be associated with relationship functioning. Like self-esteem, agreeableness has been associated with trust (felt security and trust are identical constructs; see Holmes & Cameron, 2005). Thus, in this thesis I will test a modification to the dependence regulation model that includes a new

path to dependence regulation via agreeableness. I argue that it is agreeable people's sense of trust in their partner, or their sense of security in their partner's regard for them, that leads them to value their partner and relationship more than antagonistic people. Before examining this issue, however, I will examine whether agreeable people are indeed more trusting of others.

## Study 1

The goal of Study 1 was to examine whether agreeable people really are more trusting than antagonistic people. Although Big Five researchers have described agreeable people as being more trusting on the basis of factor analytic studies, I wanted to test this prediction using a specific definition of trust developed by interpersonal relationship researchers. Trust in close relationships has been defined as positive expectations about a partner's motivation toward one's self (Holmes & Rempel, 1989). Thus, I operationalized trust as the belief that others behave toward oneself with warmth, unselfishness, kindness, and cooperation. These traits are of course indicative of agreeable people themselves (Goldberg, 1992). Thus, in one sense, I predict that the more agreeable a person is the more agreeable he or she will view others as being.

## Method

### *Participants*

Participants were 245 introductory psychology students (153 females, 73 males, and 19 who did not report their gender) who had been in at least one dating relationship in their life. They completed this study as part of a much larger package of questionnaires (not related to the present study) through mass-testing and for partial course credit.

### *Measures*

*Agreeableness* ( $\alpha = .82$ ) was measured using Goldberg's (1992) 20 unipolar adjectives (markers) of agreeableness. Participants were asked to rate how accurately each adjective describes them using a 5-point scale (with 1 = "not at all true" and 5 = "completely true"). An overall score for agreeableness was created using Goldberg's difference score scoring procedure. This procedure involves first calculating a difference score for each adjective with its appropriate paired opposite from the scale (e.g., subtract the score for "inconsiderate" from the score for



“considerate”), then summing together each of the difference scores and dividing by the total number of paired adjectives (i.e., 10). Sample adjectives include warm, cold, polite, and rude. Higher scores indicate greater agreeableness.

*Trustworthiness of others* was measured using 8 of the 20 markers of agreeableness. These were warm, cold, kind, unkind, unselfish, selfish, cooperative, and uncooperative. These were chosen both for practical reasons (i.e., to keep the questionnaire from being too long) and because I felt that these were most strongly related to interpersonal trust (e.g., whether someone is stingy or generous is not as important for trust as whether they are selfish or unselfish). All participants were first asked to rate how accurately each adjective describes how “others in general are toward you” ( $\alpha = .81$ ). Afterward, using the same eight adjectives, participants were asked to rate how their dating partners ( $\alpha = .84$ ), close friends ( $\alpha = .80$ ), and family members ( $\alpha = .79$ ) generally are toward them (separately for each group). Thus I obtained trustworthiness ratings separately for others in general, partners, friends, and family members. Higher scores indicate greater trustworthiness (i.e., more positive interpersonal expectations).

## Results and Discussion

Gender did not interact with self-reported agreeableness to predict any of the dependent variables. Thus, the results are presented collapsing across gender.

As predicted, one’s own agreeableness tends to be positively associated with views of how trustworthy others are. Not only was agreeableness associated with views of others in general,  $r(240) = .50, p < .001$ , friends,  $r(238) = .62, p < .001$ , and family,  $r(238) = .34, p < .001$ , but it was also related to seeing one’s dating partners as trustworthy,  $r(239) = .48, p < .001$ . This supports the idea that agreeableness is indeed associated with positive interpersonal expectations, including expectations of the responsiveness of one’s romantic partner. If partners are viewed as

being selfish, cold, uncooperative, and unkind toward the self, then there is less reason to feel secure in one's relationship. However, the question remains, is it these relatively more positive interpersonal expectations (i.e., these feelings of trust/felt security) that lead agreeable people to have better relationships than antagonistic people? Studies 2 to 5 are intended to address this question directly.

## Study 2

The goal of Study 2 was to examine the applicability of the dependence regulation model to agreeable people. That is, do agreeable people's feelings of trust (felt security) lead them to regulate their attachment bonds? Study 1 lent support to the idea that agreeable people do indeed hold more positive interpersonal expectations than antagonistic people. Study 2 tested whether it is these feelings of felt security that mediate the association between agreeableness and measures of important close relationship variables. To test this idea, along with agreeableness, I measured neuroticism, self-esteem, and attachment style.<sup>1</sup> I measured these other variables in order to see if there is a unique association between agreeableness and felt-security (as the other variables have also been associated with felt security). Furthermore, I also measured important relationship variables including satisfaction, feelings of closeness/commitment, and ratings of one's partner to see if feelings of felt-security mediate the association between agreeableness and these variables.

## Method

### *Participants*

Eighty-seven introductory psychology students (63 females and 24 males) involved in exclusive dating relationships participated for course credit. Participants ranged in age from 18 to 28, with a mean of 20.4. They had been involved in their current relationship for between 2 and 72 months, with a mean of 20.1 months.

### *Predictor Variables*

*Agreeableness* ( $\alpha = .82$ ) and *neuroticism* ( $\alpha = .92$ ) were measured using the 10-item versions of each from the Big-Five markers of the International Personality Item Pool (Goldberg, 1999). All ratings were made using a 5-point scale. Sample items for each variable are:

agreeableness: I “have a soft heart” and I “take time out for others;” neuroticism: I “get upset easily” and I “worry about things;” Higher scores indicate greater agreeableness and neuroticism.

*Self-esteem* was measured using Rosenberg’s (1965) self-esteem scale ( $\alpha = .89$ ), modified to include a 7-point response scale rather than the original 4. Sample items are “I feel that I have a number of good qualities” and “I take a positive attitude toward myself.” Higher scores indicate higher self-esteem.

*Attachment style* was measured using two attachment questionnaires. The first was the Adult Attachment Questionnaire (AAQ; Simpson, Rholes, & Phillips, 1996). This 17-item scale includes two subscales measuring anxious attachment ( $\alpha = .80$ ) and avoidant attachment ( $\alpha = .80$ ). Sample items are “I often worry that my partner(s) don’t really love me” (anxious item) and “I’m not very comfortable having to depend on other people” (avoidant item). Ratings were made on a 7-point scale with higher scores indicating a more insecure attachment.

The second attachment style measure was Bartholomew and Horowitz’s (1991) measure of model of self and model of other. Participants were asked to rate the extent to which each of the four descriptions of an attachment prototype (secure, dismissive, preoccupied, and fearful) describes their general style in relationships. Model of self was calculated by subtracting the sum of the ratings for the secure and dismissing prototypes from the sum of the fearful and preoccupied prototypes. Model of other was calculated by subtracting the sum of the ratings for the secure and preoccupied prototypes from the sum of the fearful and dismissing prototypes. Higher scores indicate more secure models of self and other.

*Model of other and self.* Because Simpson’s measure of avoidance and Bartholomew’s model of other are intended to measure the same construct, I created an index of the two by standardizing then combining them ( $\alpha = .79$ ). Higher scores on this index indicate a more

positive model of others. To develop a variable representing model of self I combined several measures. Murray et al.'s (2000) original work on dependence regulation examined the model's applicability to self-esteem. However, in their introduction they cited several studies on neuroticism and close relationships treating neuroticism as a proxy of self-esteem (the variables often correlate around -.60). Thus, because both neuroticism and self-esteem were measured, I decided to combine the two. Furthermore, because of the theoretical association between anxious attachment and neuroticism and self-esteem (anxious people hold negative views of themselves, just as low self-esteem individuals do; neuroticism is considered the sole Big-5 predictor of attachment anxiety; Shaver & Brennan, 1992), I decided to standardize and combine the measures of neuroticism, self-esteem, anxiety, and Bartholomew's measure of model of self, into a single broad measure of model of self ( $\alpha = .72$ ). Table 1 shows the zero-order correlations between the four components of the model of self composite. Although this composite variable is admittedly somewhat multidimensional, my preliminary analyses showed that when kept separate from each other, these variables often competed with each other for variance in inconsistent and unpredictable ways, with no one variable emerging as the best predictor of either felt security or the relationship variables. In fact, the best measure of the model of self variable of the dependence regulation model in this study was this index of all four variables. Thus, using this index ensured that agreeableness would be up against the strongest possible measure of model of self to see its unique effects.

### *Dependent Variables*

*Perceived regard (felt security)* was measured using the interpersonal qualities scale (IQS; Murray, Holmes, & Griffin, 1996;  $\alpha = .84$ ). This scale asks participants to rate the extent to which their partner feels each of 20 interpersonally relevant traits is descriptive of the participant.

Table 1

Study 2: Zero-Order Correlations Among Self-esteem, Neuroticism, Attachment Anxiety, and Model of Self

Variable	1	2	3	4
1. Self-esteem	--			
2. Neuroticism	-.53**	--		
3. Attachment Anxiety	-.39**	.37**	--	
4. Model of Self	.31**	-.33**	-.43**	--

NOTE: †p < .10; \*p < .05; \*\*p < .01

Model of Self is the measure from Bartholomew & Horowitz (1991), not the model of self composite.

Sample items include “witty and humorous,” “thoughtless” (R), and “open and disclosing.”

Higher ratings on this scale indicate greater perceived regard, which has consistently been used as a measure of felt security in Murray, Holmes, and their colleagues’ research on felt security.

*Partner ratings.* The IQS was also used to obtain participants’ ratings of their partners ( $\alpha = .85$ ). For the purpose of rating their partner, participants were asked to rate the extent to which each of the 20 traits of the IQS describes their partner. Higher scores on this measure indicate greater regard for their partners.

*Relationship satisfaction* was measured using seven questions ( $\alpha = .87$ ). Sample items are “I am extremely happy in my relationship” and “I do not feel that our relationship is successful” (R). Ratings were made on a 9-point scale with higher scores indicating greater relationship satisfaction.

*Relationship closeness* was measured using 14 items ( $\alpha = .84$ ). Sample items from this measure are “my partner and I have a unique bond” and “at times I feel out of touch with my partner” (R). Ratings were made on a 9-point scale with higher scores indicating greater relationship closeness.

## Results and Discussion

Preliminary analyses revealed no interaction between gender and agreeableness to predict any of the relationship variables. Thus, the results are presented collapsing across gender.

### *Zero-order Correlations*

Preliminary analyses revealed that agreeableness was not significantly associated with model of self,  $r(85) = .13$ , *ns*, but was significantly associated with model of other,  $r(85) = .43$ ,  $p < .001$ . Furthermore, model of other and model of self were significantly though weakly associated,  $r(85) = .22$ ,  $p < .05$ .

Table 2 shows the zero-order correlations among agreeableness, model of self, model of other, and the relationship variables. As can be seen, agreeableness was associated with perceived regard,  $r(85) = .43$ ,  $p < .001$ , as well as partner ratings,  $r(85) = .41$ ,  $p < .001$ , satisfaction,  $r(85) = .24$ ,  $p < .05$ , and feelings of closeness,  $r(85) = .29$ ,  $p < .01$ . Furthermore, the model of self index was strongly correlated with perceived regard,  $r(85) = .58$ ,  $p < .001$ , and moderately correlated with partner ratings,  $r(85) = .31$ ,  $p < .01$ . However, surprisingly, for this sample, model of self was not associated with either satisfaction,  $r(85) = .11$ , *ns*, or closeness,  $r(85) = .16$ , *ns*.

Table 2  
Study 2: Zero-Order Correlations Between Agreeableness, Model of Self, Model of Other, and the Relationship Variables

Predictor Variable	1	2	3	4	PR	S	C
1. Agreeableness	--	.13	.43**	.43**	.41**	.24*	.29**
2. Model of Self		--	.22*	.58**	.31**	.11	.16
3. Model of Other			--	.28**	.21*	.15	.20†
4. Perceived Regard				--	.65**	.40**	.44**

NOTE: † $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$   
PR = Partner Ratings; S = Satisfaction; C = Closeness

It should be noted that neuroticism, self-esteem, and anxiety (or Bartholomew’s model of self) did not individually correlate with closeness or satisfaction either. The index of model of other was a weaker though significant predictor of perceived regard,  $r(85) = .28, p < .01$ , and partner ratings,  $r(85) = .21, p = .05$ , but did not significantly predict closeness,  $r(85) = .20, ns$ , or satisfaction,  $r(85) = .15, ns$ . Finally, consistent with past research, perceived regard was associated with partner ratings,  $r(85) = .65, p < .001$ , satisfaction,  $r(85) = .40, p < .001$ , and closeness,  $r(85) = .44, p < .001$ .

*Controlling for the Other Personality Variables*

Next, I entered each personality variable (agreeableness, model of self, model of other) on the same step of a regression analysis to examine their unique predictive effect on the relationship variables. Table 3 reveals that agreeableness still significantly predicted perceived regard,  $\beta = .36, t(83) = 4.04, p < .001$ , partner ratings,  $\beta = .38, t(83) = 3.12, p < .01$ , and closeness,  $\beta = .25, t(83) = 2.12, p < .05$ , but was only a marginally significant predictor of satisfaction,  $\beta = .22, t(83) = 2.83, p = .07$ . Furthermore, model of self remained a strong predictor of perceived regard,  $\beta = .54, t(83) = 6.50, p < .001$ , and still predicted partner ratings,  $\beta = .27, t(83) = 2.75,$

Table 3  
Study 2: Partial Betas for Agreeableness, Model of Self, and Model of Other, Controlling For Each Other Then Also Controlling For Perceived Regard

Predictor Variable	Controlling for Other Personality				Controlling for Perceived Regard		
	Perceived Regard	PR	S	C	PR	S	C
1. Agreeableness	.36**	.38**	.22†	.25*	.16	.04	.08
2. Model of Self	.54**	.27**	.08	.11	-.07	-.18	-.14
3. Model of Other	.00	-.02	.04	.07	-.02	.03	.07
4. Perceived Regard (controlling for personality)					.63**	.48**	.46**

NOTE: † $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$   
PR = Partner Ratings; S = Satisfaction; C = Closeness



$p < .05$ . Model of other did not predict any of the relationship variables. Thus, only agreeableness and model of self predicted perceived regard or any of the other relationship variables uniquely, using this more conservative test. When controlling for the personality variables, perceived regard continued to strongly predict partner ratings  $\beta = .63$ ,  $t(82) = 5.60$ ,  $p < .001$ , satisfaction,  $\beta = .48$ ,  $t(82) = 3.50$ ,  $p < .001$ , and closeness,  $\beta = .46$ ,  $t(82) = 3.45$ ,  $p < .001$ .

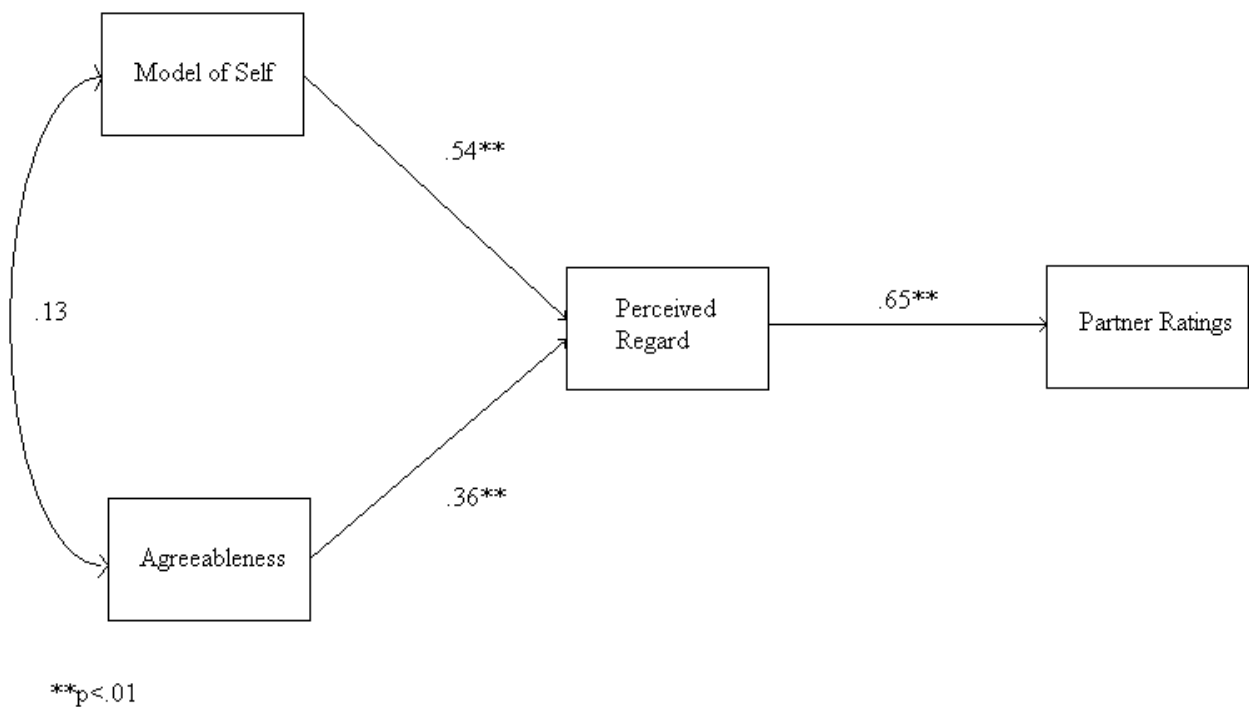
#### *Perceived Regard as a Mediator*

If agreeable people regulate their dependence according to their feelings of felt security, then perceived regard should mediate the association between agreeableness and the other relationship variables. Table 3 shows the results of these mediation analyses. First, when controlling for perceived regard, the association between agreeableness and partner ratings dropped from  $\beta = .38$  to  $\beta = .16$ ,  $t(82) = 1.59$ , *ns*. Sobel's test for mediation revealed that this was a significant reduction,  $Z = 3.28$ ,  $p < .01$ . Controlling for perceived regard also reduced the association between agreeableness and closeness from  $\beta = .25$  to  $\beta = .08$ ,  $t(82) = 0.66$ , *ns*, which was a significant reduction,  $Z = 2.62$ ,  $p < .01$ . Finally, because controlling for all of the personality variables reduced the association between agreeableness and satisfaction to a non-significant level ( $\beta = .22$ ,  $p = .07$ ), it was not appropriate to conduct a mediation test of perceived regard while already controlling for the other personality variables (which would have been a very conservative test of the hypotheses anyway). Thus, to see if perceived regard mediated the association between agreeableness and satisfaction, I performed the analysis not controlling for the other personality variables. Doing so revealed a drop in the association between agreeableness and satisfaction from  $\beta = .24$ ,  $t(85) = 2.29$ ,  $p < .05$ , to  $\beta = .08$ ,  $t(84) = 0.76$ , *ns*,  $Z = 2.91$ ,  $p < .01$ . Thus, overall the results of the mediation analyses are consistent with the idea that felt security mediates the association between agreeableness and various relationship variables.

### *A New Path to Dependence Regulation?*

Figure 1 depicts a new path to dependence regulation via agreeableness, using partner ratings as the outcome variable. The path from model of self to perceived regard represents the original path to dependence regulation that Murray et al. discovered. The path from agreeableness to perceived regard is a novel path. A test of this model (with the direct paths from model of self and agreeableness to partner ratings constrained to equal 0) reveals that it has a good fit with the data,  $\chi^2(2) = 3.68$ ,  $p = .16$ , CFI = .98, and RMSEA = .099. Furthermore, switching the places of perceived regard and partner ratings so that partner ratings acts as the mediator and perceived regard as the outcome variable fit the data very poorly,  $\chi^2(2) = 34.22$ ,  $p < .001$ , CFI = .68, and RMSEA = .433. Similar results are obtained with the other relationship

Figure 1. The Dependency Regulation Model with model of self and agreeableness in Study 2



variables. That is, with closeness or satisfaction as the outcome variable, the model also fit the data well,  $\chi^2(2) = 2.41$ ,  $p = .299$ , CFI = .99, and RMSEA = .049 for closeness, and  $\chi^2(2) = 2.58$ ,  $p = .275$ , CFI = .99, and RMSEA = .058 for satisfaction. Likewise, making closeness or satisfaction the mediator between agreeableness and perceived regard did not fit the data well,  $\chi^2(2) = 47.50$ ,  $p < .001$ , CFI = .39, and RMSEA = .514 for closeness as the mediator, and  $\chi^2(2) = 50.76$ ,  $p < .001$ , CFI = .27, and RMSEA = .532 for satisfaction. Furthermore, what Figure 1 hints at is the very impressive ability of both agreeableness and model of self to predict perceived regard. In fact, the combined predictive effects of agreeableness and model of self on perceived regard are quite strong,  $R = .68$ ,  $F(2, 84) = 36.63$ ,  $p < .001$ . That is, almost half of the variance in perceived regard (felt security) is accounted for by agreeableness and model of self. If one were to replace model of self with only neuroticism (to create a “Big Five” model)  $R$  does not change much,  $R = .66$ ,  $F(2, 84) = 33.19$ ,  $p < .001$ . Thus, impressively, two very general personality variables were able to predict feelings of security in a specific relationship.

Because Study 2 was the first test of the hypothesis that agreeable people have better relationships because they are more trusting (secure), Study 3 was intended to replicate these results, this time using a somewhat more diverse sample of participants.

### Study 3

In Study 3 I tested whether the results of Study 2 would replicate, this time using a sample that consisted of both participants born in Canada of European descent and participants born in East-Asia (who were currently studying in Canada). The Asian participants were also highly identified with their Asian cultural background. Although these Asians would be considered somewhat bi-cultural, Hoshino-Brown et al.(2005) found that students in Canada who were born in East-Asia and identified highly with their Asian cultural background behaved very similar to a sample of East-Asians still living in Asia. Thus, using this somewhat diverse sample allows me to both replicate the results of Study 2 on North Americans and to investigate whether people of East-Asian birth may also regulate their dependence. MacDonald and Margareta (2006) have already shown that the dependence regulation model using self-esteem does seem to apply to people living in Indonesia. However, the present study will, of course, include agreeableness. Based on MacDonald and Margareta's findings, I do not expect culture to qualify the association between agreeableness and the dependence regulation model.

### Method

#### *Participants*

Eighty-five introductory psychology students (67 females, 18 males) who were involved in exclusive dating relationships participated in this study for partial course credit. Roughly half of these participants were selected because they were born in Canada of European descent (n = 43) and the other half because they were born in East-Asia and were identified by pretesting in their introductory psychology class as being highly identified with their Asian cultural background (n = 42). That is, I included only Asians who answered the question "On a scale of 1 to 9, how much do you identify with [your] ethnic group?" (1 = not at all, 9 = extremely) with a

rating of a least a 7. There was an equal number of males in each sample. The Western sample ranged in age from 17 to 23 ( $M = 19.5$ ) and had been involved in their current relationship for between 1 and 84 months ( $M = 18.3$ ). The East-Asian sample ranged in age from 17 to 24 ( $M = 19.0$ ) and had been involved in their current relationship for between 1 and 73 months ( $M = 15.4$ ). The samples did not differ in age,  $t(83) = 1.58, ns$ , or relationship length,  $t(83) = 0.77, ns$ .

### *Predictor Variables*

*Agreeableness* ( $\alpha = .71$ ) and *neuroticism* ( $\alpha = .87$ ) were measured using the same 20 items of the Big-Five markers from the International Personality Item Pool (Goldberg, 1999) used in Study 2. Ratings were made using a 5-point scale, with higher scores indicating higher agreeableness and neuroticism.

*Self-esteem* was measured using Rosenberg's (1965) self-esteem scale ( $\alpha = .89$ ), modified to include a 7-point response scale rather than the original 4, with higher scores indicating greater self-esteem.

*Attachment style* was measured using only the Adult Attachment Questionnaire (Simpson et al., 1996). Ratings were made on a 7-point scale with higher scores indicating a more insecure attachment. Anxiety and avoidance subscales exhibited acceptable levels of internal consistency:  $\alpha = .79$  and  $\alpha = .73$ , respectively.

An index of *model of self* ( $\alpha = .79$ ) was created by standardizing then combining neuroticism, self-esteem, and anxiety. Once again, this was done not only because of their similarities, but because preliminary analyses revealed that they competed with each other for variance in inconsistent ways and that an index of the three measures was a better and more consistent predictor of the relationship variables. Table 4 contains the zero-order correlations among self-esteem, neuroticism, and attachment anxiety.

Table 4  
 Study 3: Zero-Order Correlations Among Self-esteem, Neuroticism, and Attachment Anxiety

Variable	1	2	3
1. Self-esteem	--		
2. Neuroticism	-.58**	--	
3. Attachment Anxiety	-.65**	.44**	--

NOTE: †p < .10; \*p < .05; \*\*p < .01

### *Dependent Variables*

*Perceived regard (felt security)* was again measured using the IQS ( $\alpha = .85$ ). Ratings on this 20-item scale were made on a 9-point scale with higher scores indicating greater felt security.

*Partner ratings.* The IQS was also used to obtain participants' ratings of their partners ( $\alpha = .88$ ). For the purpose of rating their partner, participants were asked to rate the extent to which each of the 20 traits of the IQS describes their partner. Higher scores on this measure indicate greater regard for their partners.

*Relationship satisfaction* was measured using three questions ( $\alpha = .90$ ): "I am perfectly satisfied in my relationship," "I have a very strong relationship with my partner," and "My relationship with my partner is very rewarding." Ratings were made on a 9-point scale with higher scores indicating greater relationship satisfaction.

*Relationship closeness* was measured using 16 items ( $\alpha = .94$ ). Sample items from this measure are "my partner and I have a unique bond" and "I feel closer to my partner than to anyone else in my life." Ratings were made on a 9-point scale with higher scores indicating greater relationship closeness.

*Relationship ambivalence* was measured using six items ( $\alpha = .80$ ). Sample items from this measure are “To what extent are you ambivalent or unsure about continuing in the relationship with your partner?” and “To what extent do you worry about losing some of your independence by being involved with your partner?” Responses were made on a 9-point scale with higher scores indicating more ambivalence.

## Results and Discussion

### *Preliminary Analyses*

Gender did not interact with either culture or agreeableness, therefore results are presented collapsed across gender. Culture did not interact with agreeableness to predict any of the relationship variables except perceived regard,  $\beta = -.27$ ,  $t(82) = -2.21$ ,  $p = .03$ . Examining the moderating effects of culture revealed that agreeableness was a stronger predictor of perceived regard for Asians,  $\beta = .71$ ,  $t(40) = 6.44$ ,  $p < .001$ , than it was for Westerners,  $\beta = .37$ ,  $t(41) = 2.53$ ,  $p < .02$ . Although this is very interesting, because culture did not interact with agreeableness to predict any of the other relationship variables, the remainder of the results will be discussed collapsing across culture.

### *Zero-order Correlations*

Table 5 shows the zero-order correlations among agreeableness, model of self, avoidance, and the relationship variables. As can be seen, agreeableness was associated with perceived regard,  $r(83) = .58$ ,  $p < .001$ , as well as partner ratings,  $r(82) = .30$ ,  $p < .01$ , feelings of closeness,  $r(83) = .33$ ,  $p < .01$ , and ambivalence,  $r(82) = -.34$ ,  $p < .01$ , but not satisfaction,  $r(83) = .18$ , *ns*. Furthermore, the model of self index was significantly associated with perceived regard,  $r(83) = .46$ ,  $p < .001$ , partner ratings,  $r(82) = .31$ ,  $p < .01$ , satisfaction,  $r(83) = .29$ ,  $p < .01$ , and ambivalence,  $r(82) = -.27$ ,  $p < .05$ , but not closeness,  $r(83) = .15$ , *ns*. It should be noted that from

Table 5

Study 2: Zero-Order Correlations Between Agreeableness, Model of Self, Avoidance, and the Relationship Variables

Predictor Variable	1	2	3	4	PR	S	C	Am
1. Agreeableness	--	.12	-.35**	.58**	.30**	.18	.33**	.34**
2. Model of Self		--	-.34**	.46**	.31**	.29**	.15	-.27*
3. Avoidance			--	-.21†	-.17	-.14	-.11	.21†
4. Perceived Regard				--	.49**	.38**	.41**	-.52**

NOTE: † $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$

PR = Partner Ratings; S = Satisfaction; C = Closeness; Am = Ambivalence

the model of self index, only self-esteem individually correlated with closeness,  $r(83) = .22$ ,  $p < .05$ . Avoidance (negative model of other) was not significantly associated with any of the relationship variables. Finally, consistent with past research, perceived regard was significantly associated with partner ratings,  $r(82) = .49$ ,  $p < .001$ , satisfaction,  $r(83) = .38$ ,  $p < .001$ , closeness,  $r(83) = .41$ ,  $p < .001$ , and ambivalence,  $r(82) = -.52$ ,  $p < .001$ .

#### *Controlling for the Other Personality Variables*

Next, agreeableness and model of self were entered on the same step of a regression analysis to examine their unique predictive effects on the relationship variables. Table 6 reveals that agreeableness still significantly predicted perceived regard,  $\beta = .53$ ,  $t(82) = 6.67$ ,  $p < .001$ , partner ratings,  $\beta = .26$ ,  $t(81) = 2.57$ ,  $p < .05$ , closeness,  $\beta = .32$ ,  $t(82) = 3.05$ ,  $p < .01$ , and ambivalence,  $\beta = -.31$ ,  $t(81) = -3.08$ ,  $p < .01$ , but was not significantly associated with satisfaction,  $\beta = .15$ ,  $t(82) = 1.37$ , *ns*. Furthermore, model of self remained a significant predictor of perceived regard,  $\beta = .40$ ,  $t(82) = 5.00$ ,  $p < .001$ , partner ratings,  $\beta = .28$ ,  $t(81) = 2.75$ ,  $p < .01$ , ambivalence,  $\beta = -.24$ ,  $t(81) = -2.31$ ,  $p < .05$ , and satisfaction,  $\beta = .27$ ,  $t(82) = 2.56$ ,  $p < .05$ , but was not a



Table 6  
 Study 3: Partial Betas for Agreeableness and Model of Self Controlling For Each Other, Predicting the Relationship Variables

Predictor Variable	<u>Controlling for Other Personality</u>				
	Perceived Regard	PR	S	C	Am
1. Agreeableness	.53**	.26*	.15	.32**	-.31**
2. Model of Self	.40**	.28**	.27*	.11	-.24*

NOTE: †p < .10; \*p < .05; \*\*p < .01

PR = Partner Ratings; S = Satisfaction; C = Closeness; Am = Ambivalence

significant predictor of closeness,  $\beta = .11$ ,  $t(82) = 1.10$ , *ns*. Thus, agreeableness and model of self uniquely predicted perceived regard and the other relationship variables.

#### *Perceived Regard as a Mediator*

Does perceived regard mediate the association between agreeableness and the other relationship variables? Table 7 shows the results of these mediation analyses. First, when controlling for perceived regard, the association between agreeableness and partner ratings dropped from  $\beta = .26$  to  $\beta = .05$ ,  $t(80) = 0.41$ , *ns*. Sobel's test for mediation revealed that this was a significant reduction,  $Z = 2.72$ ,  $p < .01$ . Controlling for perceived regard also reduced the association between agreeableness and closeness from  $\beta = .32$  to  $\beta = .13$ ,  $t(81) = 1.06$ , *ns*, which was a significant reduction,  $Z = 2.34$ ,  $p < .05$ . For ambivalence, controlling perceived regard reduced the association from  $\beta = -.31$  to  $\beta = -.07$ ,  $t(80) = -0.61$ , *ns*, a significant reduction,  $Z = -3.04$ ,  $p < .01$ . Because agreeableness was not significantly associated with satisfaction in this sample, mediational analysis with satisfaction was not appropriate. Despite this, overall the results of the mediation analyses replicate the results from Study 2 and are consistent with the

Table 7  
 Study 3: Partial Betas for Agreeableness, Model of Self, and Perceived Regard, Controlling For Each Other, Predicting the Relationship Variables

Predictor Variable	Perceived Regard	PR	S	C	Am
1. Agreeableness	.53**	.05	-.03	.13	-.07
2. Model of Self	.40**	.12	.14	-.03	-.05
3. Perceived Regard	--	.40**	.33*	.35*	-.46**

NOTE: †p < .10; \*p < .05; \*\*p < .01

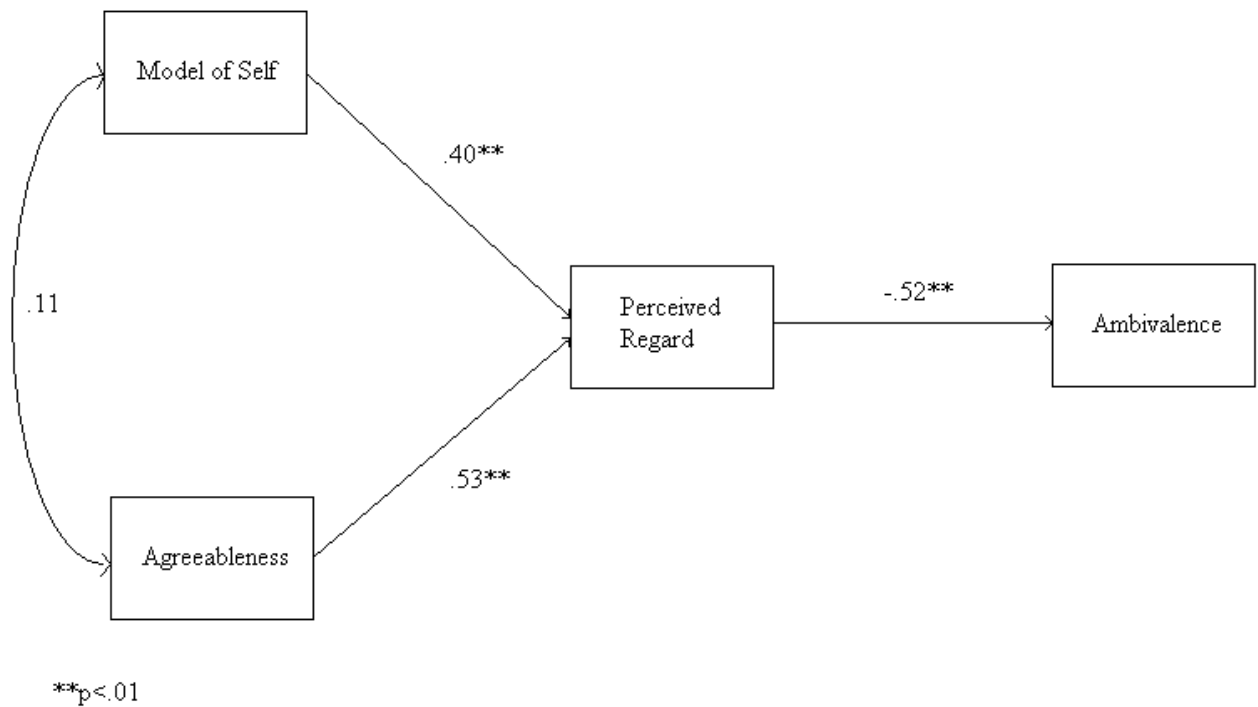
PR = Partner Ratings; S = Satisfaction; C = Closeness; Am = Ambivalence

idea that felt security mediates the association between agreeableness and various relationship variables.

### *Structural Equation Models*

Figure 2 depicts the dependence regulation model predicting relationship ambivalence. Fit indices indicate that this model fits the data very well,  $\chi^2(2) = 0.53$ ,  $p = .77$ , CFI = 1.000, RMSEA < .001. Reversing the mediator and the outcome variable so that ambivalence acts as the mediator and perceived regard as the outcome variable fits the data quite poorly,  $\chi^2(2) = 41.17$ ,  $p < .001$ , CFI = .472, RMSEA = .483. Similar results are obtained using the other relationship variables. That is, with closeness or partner ratings as the outcome variable, the model also fit the data well,  $\chi^2(2) = 1.34$ ,  $p = .511$ , CFI = 1.00, and RMSEA < .001 for closeness, and  $\chi^2(2) = 1.26$ ,  $p = .534$ , CFI = 1.00, and RMSEA < .001 for partner ratings. Likewise, making closeness or partner ratings the mediator between agreeableness and perceived regard did not fit the data well,  $\chi^2(2) = 46.59$ ,  $p < .001$ , CFI = .35, and RMSEA = .515 for closeness as the mediator, and  $\chi^2(2) = 42.45$ ,  $p < .001$ , CFI = .43, and RMSEA = .491 for partner ratings as the mediator. Finally, I

Figure 2. The Dependency Regulation Model with Model of Self and Agreeableness in Study 3



calculated the combined predictive effects of agreeableness and model of self to predict perceived regard, a model that was highly significant,  $R = .70$ ,  $F(2, 82) = 39.05$ ,  $p < .001$ . Thus as in Study 2, about half of the variance in perceived regard could be predicted by agreeableness and model of self. Replacing model of self with only neuroticism does not weaken this association much,  $R = .67$ ,  $F(2, 82) = 32.98$ ,  $p < .001$ . Thus, like Study 2, two very general personality variables were able to predict feelings of security in a specific relationship.

## Study 4

Studies 2 and 3 lent support to the idea that agreeableness relates to dependence regulation. That is, the association between agreeableness and various relationship variables was consistently mediated by felt security. However, these studies provided only correlational evidence. Study 4 was intended to provide the first experimental test of this hypothesis. Murray, Rose, Bellavia, Holmes, & Kusche (2002) found that when given reason to feel insecure, low self-esteem individuals consistently distanced themselves psychologically and emotionally from their partners (i.e., they defensively regulated their dependence). Murray et al. argued that this was because low self-esteem individuals, who are already somewhat insecure in their partner's regard for them, believe their partner's feelings for them are still an open question. That is, because they were not very certain about their partner's caring for them (i.e., they had relatively low perceived regard), evidence of their partner's possible imminent rejection led them to protectively devalue their partner and relationship. However, because of high self-esteem individuals' feelings of greater overall security, they responded to the acute threat by either not distancing themselves from their partners or by pulling even closer to them. Because high self-esteem individuals have greater trust in their partner's feelings for them (higher perceived regard), when given some evidence of the contrary, they were better able to dismiss the information as not being indicative of their partner's true feelings for them. Hence, there was little need to defensively distance themselves from their partner to protect themselves from possible rejection. For secure people it would presumably take a lot more information, perhaps over a longer period of time, to have them truly question their partner's feelings for them.

Because Studies 2 and 3 showed that agreeableness behaves very similarly to self-esteem (model of self) in terms of dependence regulation, I expect that antagonistic individuals – those

less confident about their partner's caring – would also defensively pull away from their partner when faced with some evidence that their partner does not value them, and hence, may reject them. Furthermore, because agreeable people are more trusting, and hence, more confident in their partner's regard for them, they will respond to a relatively minor relationship threat by either not distancing themselves emotionally from their partner, or by pulling even closer. They may pull even closer to their partner because evidence of their partner's lack of caring for them may automatically trigger thoughts of all of the evidence that their partner does indeed care about them (cf Murray & Holmes, 1999).

These ideas will be tested in Study 4 by having participants recall the last time their partner criticized them – an event that is likely fairly common in relationships. After describing the event, participants were also asked to recall how they felt immediately after the criticism. I predict that antagonistic individuals would respond to this fairly direct challenge to their perceived regard by devaluing their partner and relationship, but that agreeable individuals would not and might possibly pull closer to their partners. Like Study 3, I also included a sample of East-Asian born students who identified highly with their Asian cultural background. I did this once again to test the applicability of the model across cultures. Because culture did not interact with agreeableness in Study 3 and other research on self-esteem has shown that the dependence regulation model seems to apply equally well to Asians, I predicted that culture would not qualify any of the results.

## Method

### Participants

Seventy-six introductory psychology students (20 males, 56 females) who identified their relationships as being either casual dating (n=6), exclusive dating (n=56), engaged (n=5),

married (n=3) or cohabitating (n=6) participated in this study for partial course credit. Forty-seven of the participants were of a European cultural background. The remaining 29 participants had been born in East-Asia and identified highly with their East-Asian ethnicity. That is, I once again included only those who answered the question “On a scale of 1 to 9, how much do you identify with [your] ethnic group?” (1 = not at all, 9 = extremely) with a rating of a least a 7. There was roughly an equal number of males in each sample (9 for the Western sample and 11 for the Asian sample). The Western sample ranged in age from 17 to 56 (M = 20.9) and had been involved in their current relationship for between 1 and 54 months (M = 19.5). The East-Asian sample ranged in age from 17 to 25 (M = 19.4) and had been involved in their current relationship for between 2 and 50 months (M = 16.0). The samples did not differ in age,  $t(74) = 1.17, ns$ , or relationship length,  $t(74) = 1.03, ns$ .

#### *Predictor Variables*

*Agreeableness* ( $\alpha = .80$ ) was measured using the same 10-item measure of agreeableness used in studies 2 and 3 (Goldberg, 1999). Ratings were made using a 5-point scale, with higher scores indicating higher agreeableness.

*Self-esteem*<sup>2</sup> was measured using Rosenberg’s (1965) self-esteem scale ( $\alpha = .89$ ), modified to include a 9-point response scale rather than the original 4, with higher scores indicating greater self-esteem.

#### *Dependent Variables*

*Mood* ( $\alpha = .94$ ) was measured using 11 bi-polar items (with a 9-point scale in between the poles) adapted from McFarland and Ross (1982). Participants were asked to rate how they felt after the situation they described (see procedures). Sample items are 1 = “not at all happy” to 9 = “very happy” and 1 = “not at all hurt” to 9 = “very hurt.” Higher scores indicate a better mood.

*Partner ratings.* The same IQS from Studies 2 and 3 was used to obtain participants' ratings of their partners ( $\alpha = .88$ ). Participants were asked to rate the extent to which they felt each of the 20 traits of the IQS described their partner after the event. Higher scores on this measure indicate greater regard for their partners.

*Relationship satisfaction* was measured using five questions ( $\alpha = .88$ ). Sample items are "I had a very strong relationship with my partner" and "I do not feel that our relationship was successful" (R). Ratings were made on a 9-point scale with higher scores indicating greater relationship satisfaction.

*Relationship closeness/commitment* was measured using five items ( $\alpha = .81$ ). Sample items are "I wanted to spend less time with my partner" (R) and "I felt very close to my partner." Ratings were made on a 9-point scale with higher scores indicating greater closeness.

#### Procedure

After completing the demographics and predictor questionnaires, participants in the *control* condition read:

We are interested in studying memory for events that happened in relationships. Think about the last movie you watched with your partner. Please write down everything you can remember about that event (e.g., what the movie was, what it was about, etc.).

Describe the movie in enough detail that someone who has never seen it could fully understand what the movie was about.

For participants in the *criticism* condition, the instructions read:

We are interested in studying memory for events that happened in relationships. Think of the last time when your partner asked you to change something about you that they thought was negative to something that they thought was positive. Please write down, in

as much detail as you can, everything you can remember about that event (e.g., what your partner wanted you to change, how you felt, how you responded, etc.)

After participants described the event, the next page consisted of the dependent variables that asked participants to answer them as they remember having felt right after the event.

## Results and Discussion

Gender did not interact with either culture, condition, or agreeableness to predict any of the relationship variables. Furthermore, culture did not interact with agreeableness or condition to predict any of the relationship variables. Thus, the results are collapsed across gender and culture. Finally, agreeableness did not correlate with self-esteem,  $r(74) = .08$ , *ns*.

Although the manipulation was a fairly direct challenge to participants' perceived regard, it may also have affected participants' mood. That is, participants might have become less satisfied with and distanced themselves from their partners not only because they felt less secure (as the dependence regulation model suggests), but also because they were upset at them (who likes to be criticized?). Thus, it is important that poorer mood is ruled-out as an alternate explanation for the results. To see if agreeableness interacted with condition to have differential effects on mood, I first created a dummy variable from the condition variable and centred agreeableness. Then I entered dummy variable and centred agreeableness on the first step of a regression analysis. On the second step, I entered the interaction between those two variables. Table 8 shows the predicted means from these analyses. The results revealed no significant interaction between agreeableness and condition,  $\beta = -.08$ ,  $t(72) = -0.69$ , *ns*. Furthermore, the main effects of agreeableness,  $\beta = -.19$ ,  $t(73) = -2.40$ ,  $p < .05$ , and condition,  $\beta = .70$ ,  $t(73) = 8.75$ ,  $p < .001$ , were significant. This indicates that despite agreeable people being in a somewhat better mood than antagonistic people, both groups were equally affected by, and quite unhappy after



Table 8  
Study 4: Predicted Scores for the Agreeableness  $\times$  Condition Interactions

	Low Agreeableness		High Agreeableness	
	Control	Threat	Control	Threat
Mood	2.27	4.96	1.72	4.24
Satisfaction	8.24	6.74	8.61	8.18
Closeness	8.09	6.25	8.37	8.20
Partner Ratings	6.78	5.78	7.64	7.34

NOTE: Low and high agreeableness refer to participants one standard deviation below and above the mean, respectively. Higher scores indicate more negative mood, greater satisfaction, greater closeness, and more positive views of their partners.

the criticism. Thus, any differential effect the criticism had on agreeable people's feelings about their relationships is not likely to be due to mood.

Next I tested the interaction between condition and agreeableness on relationship satisfaction. The analysis revealed that condition interacted significantly with agreeableness to predict relationship satisfaction,  $\beta = .29$ ,  $t(72) = 2.17$ ,  $p < .05$ . Simple slope analyses revealed that antagonistic people (defined as being one standard deviation below the mean on agreeableness) were significantly less satisfied with their relationships in the criticism condition than in the control condition,  $\beta = -.59$ ,  $t(72) = -4.29$ ,  $p < .001$ . However, agreeable people (defined as being one standard deviation above the mean on agreeableness) were not significantly less satisfied in their relationships after being criticized,  $\beta = -.17$ ,  $t(72) = -1.20$ , *ns*.

As for closeness/commitment, the interaction between condition and agreeableness was also significant,  $\beta = .40$ ,  $t(72) = 3.09$ ,  $p < .01$ . Simple slope analyses revealed that although antagonistic people felt more distant (less committed) from their partners after being criticized,  $\beta = -.64$ ,  $t(72) = -4.85$ ,  $p < .001$ , agreeable people did not,  $\beta = -.06$ ,  $t(72) = -0.45$ , *ns*.

Finally, the interaction between condition and agreeableness did not significantly predict partner ratings,  $\beta = .26$ ,  $t(72) = 1.60$ ,  $p = .11$ . However, examining the predicted means from this analysis in Table 8 reveals the same pattern of results as found with satisfaction and closeness/commitment.

#### *Controlling for Mood and Self-Esteem*

Next, I wanted to see if the effects of condition on agreeableness were not influenced by mood or self-esteem. As mentioned earlier, people in worse moods might take it out on their partners; thus controlling for this variable would provide further support to the idea that the results are due to dependence regulation alone. Furthermore, because self-esteem has been associated with dependence regulation, I also controlled for it to see the unique effects of agreeableness (as in Studies 2 and 3). Thus, I repeated the above analyses and found that controlling for mood and self-esteem did not affect the interaction between condition and agreeableness on satisfaction,  $\beta = .26$ ,  $t(70) = 2.07$ ,  $p < .05$ , or closeness/commitment,  $\beta = .40$ ,  $t(70) = 4.39$ ,  $p < .001$ . Thus, I feel reduced mood is not an adequate explanation for the results. Furthermore, and importantly, the effects of agreeableness were independent from self-esteem.

Overall, this experiment provides support for the idea that agreeableness is associated with important relationship variables because of agreeable people's greater trust in their partner's regard for them. That is, because agreeable people are quite secure about their partner's true feelings for them, they did not allow their partner's criticism to cause them to pull away emotionally or psychologically from their partner. This is despite the fact that agreeable people were clearly unhappy about their partner's criticism. Antagonistic people, however, presumably because their sense of their partner's feelings for them is still an open question and inherently fragile, took their partner's criticism of them as indicative of their true feelings. Because mood

did not mediate the effect between agreeableness and condition on the relationship variables, and the manipulation was a fairly direct challenge to their perceived regard, I feel that antagonistic people distanced themselves from their partners as a defensive response to protect themselves from the possible sting of rejection. Having said all that, there were some weaknesses with the method in Study 4.

First, because it was a memory study, it is possible that the results were due to agreeable and antagonistic participants' differential recollection, or biased memory, of the event. However, I feel this is unlikely because both groups recalled being equally upset by the event. Also, the results looked quite similar to other research on self-esteem and dependence regulation. Finally, although I feel the manipulation was a fairly direct challenge to participants' perceived regard, I did not measure felt security after the manipulation to see if it mediated the results. This is something I corrected in Study 5, which sought to replicate the results of Study 4, this time without need for recall on the part of the participants and with a manipulation check.

## Study 5

Because Study 4 was the first experimental test of the dependence regulation model with agreeableness, I wanted to conceptually replicate these results using a very different manipulation. To do so I had participants' partners complete a personality questionnaire. In the threat condition I then provided participants with information claiming that a researcher had analyzed that personality questionnaire and that others find their partner's personality profile particularly attractive for a dating relationship.<sup>3</sup> In the control condition they were not given such feedback. By telling participants that their partners have personality profiles that are in high demand for romantic relationships, participants could interpret this as a potential threat to their relationship. Past research has shown that people tend to feel threatened by the thought of their partner possibly being attracted to another person (Simpson, Ickes, & Blackstone, 1995). The threat employed in Study 5 spins this finding around by simply indicating that many people find the partner's personality attractive for a romantic relationship. This subtle, indirect threat to felt security is also in sharp contrast to the rather direct threat in Study 4. Like Study 4, however, I predicted that compared to agreeable people, antagonistic people, already uncertain about their partner's feelings for them, would feel threatened and devalue their partner and relationship. Agreeable people on the other hand, would either not devalue their partners and relationships or would respond to the threat by pulling closer to their partner and relationship.

## Method

### Participants

Sixty introductory psychology students (44 females, 16 males) involved in exclusive dating relationships participated for partial course credit. Participants ranged in age from 18 to

28, with a mean of 19.5. They had been involved in their current relationship for between 4 and 74 months, with a mean of 17.7 months.

### *Predictor Variables*

*Agreeableness* ( $\alpha = .82$ ) and *neuroticism* ( $\alpha = .92$ ) were measured using the same items from the IPIP (Goldberg, 1999) as in Study 2. All ratings were made using a 5-point scale. Higher scores indicate greater agreeableness and neuroticism.

*Self-esteem* was measured using Rosenberg's (1965) self-esteem scale ( $\alpha = .93$ ), modified to include a 7-point response scale rather than the original 4. Higher scores indicate higher self-esteem.

*Attachment style* was measured using the same two attachment questionnaires as in Study 2. The first was the Adult Attachment Questionnaire (Simpson et al., 1996). The reliabilities of the avoidance ( $\alpha = .82$ ) and anxiety ( $\alpha = .75$ ) subscales were acceptable. Ratings were made on a 7-point scale with higher scores indicating a more insecure attachment. Ratings on Bartholomew and Horowitz's (1991) measure of model of self and model of other were also made on a 7-point scale. Higher scores indicate more secure models of self and other.

*Model of other and self.* Like Study 2, for model of other I standardized and combined Simpson's measure of avoidance and Bartholomew's model of other to create an index of model of other ( $\alpha = .78$ ). For the index of model of self, once again, I standardized then combined neuroticism, self-esteem, attachment anxiety, and model of self ( $\alpha = .84$ ; zero-order correlations can be found in Table 9). Higher scores for model of self and model of other indicate a more positive view of the self and others.

Table 9

Study 5: Zero-Order Correlations Between Self-esteem, Neuroticism, Attachment Anxiety, and Model of Self

Variable	1	2	3	4
1. Self-esteem	--			
2. Neuroticism	-.68**	--		
3. Attachment Anxiety	-.54**	.57**	--	
4. Model of Self	.53**	-.44**	-.62**	--

NOTE: †p < .10; \*p < .05; \*\*p < .01

Model of Self is the measure from Bartholomew & Horowitz (1991), not the model of self composite.

### *Dependent Variables*

*State Felt Security* was measured using seven items ( $\alpha = .79$ ). Sample items are: rate the extent to which you feel... “quite secure about your relationship” and “my partner sees me as a very special person.” Responses were made using a 9-point scale with higher scores indicating greater security.

*Mood* was measured using the same 11 bi-polar items used in Study 4 ( $\alpha = .90$ ). Responses were made on a 7-point scale with higher scores indicating a more positive mood.

*Relationship satisfaction* was measured using the same seven satisfaction items from Study 2 ( $\alpha = .83$ ): Responses were made using a 9-point scale with higher scores indicating greater satisfaction.

*Closeness* was measured using the same 14 closeness items from Study 2 ( $\alpha = .80$ ). Ratings were made on a 9-point scale with higher scores indicating greater relationship closeness.

*Ambivalence* was measured using five items ( $\alpha = .90$ ). Sample items are: “To what extent are you ambivalent or unsure about continuing in the relationship with your partner?,” and “To what extent do you feel that your partner demands or requires too much of your time and attention?” Responses were made on a 9-point scale with higher scores indicating greater ambivalence toward one’s partner and relationship.

### Procedure

For simplicity, “participants” refers to the introductory psychology students who completed the lab portion of the study. “Partners” refers to the participants’ partners. “Partners” did not participate in the lab portion of the experiment. Partners were mailed questionnaires that they completed and mailed back to the experimenter in prestamped envelopes. Partners were asked not to complete the questionnaires in the presence of the participants. Partners were also assured that their responses would be confidential and that their partner (the participant) would never see their responses. Once receiving a questionnaire back from a participant’s partner, the participant was scheduled for a lab session that took place generally less than a week later, but no longer than two weeks after receiving it. Once in the lab participants were told that the study concerned personality and factors that bring people together. They were then given a package of questionnaires to complete that contained the predictor/personality variables. After completing this package, participants informed the experimenter. The experimenter then reentered the lab carrying a folder and sat down next to the participant. The experimenter proceeded to open the folder which contained the participant’s *partner’s* personality questionnaire that the partner had completed. (Only the cover page with the informed consent form could be seen by the participant, complete with their partner’s actual signature). In the threat condition, the experimenter then stated:

I assume you remember that a little while back we had your partner fill out a package of questionnaires. Here's a file I've put together on your partner, based on his/her responses. You can see here's the questionnaires he/she filled out. Of course I can't let you see their responses because of confidentiality.

Now what we have done, is we have entered the data into a computer and it has generated, what we in psychology call, a complete Waterford personality profile for your partner.

Now, the way these scales were created makes it so that it makes no sense to talk about any one trait in isolation. So, what is most important here is not any specific trait but the overall pattern we get, you know, the total package. Although the actual analysis is pretty complex, here's a brief non-technical summary of your partner's personality profile. Please read it over.

The experimenter then handed the participant his/her partner's "Waterford Personality Profile," which consisted of a histogram with several wavy lines and a written "summary" of the results of the test that read:

According to the relationship congruency model, your partner has a very positive personality profile when it comes to having successful intimate relationships. What is important here is not any one personality trait, but the pattern of traits your partner exhibits (no one trait can be considered in isolation). In fact, according to the relationship congruency model, the particular *pattern* of traits exhibited by your partner has been shown to be very important for the happiness of their partner (i.e., you).

Furthermore, research has shown other people see your partner's profile as being highly desirable and especially attractive. So your partner really is the kind of person who is in high demand as a romantic partner. You're really very lucky to have him/her.



After reading the profile the experimenter explained to the participant that the researchers want to test the validity of the predictions made by the relationship congruency model against the real experiences of the participant (because they would know their own partner best). They were then given the second package of questionnaires containing the dependent variables.

For participants in the control condition, after the researcher sat down next to them, the researcher explained that they were planning to analyze the participant's partner's responses, but had not done so yet. The participants were then handed the second questionnaire package and were told that it simply asks about the participant's relationship with the partner.

After completing the package of dependent variables, the experimenter then thanked the participants for their participation and fully debriefed them about the true nature of the study.

## Results

Gender did not qualify any of the results, thus, the results are reported collapsed across gender. Furthermore, agreeableness did not correlate significantly with model of self,  $r(58) = .10$ , *ns*, or model of other,  $r(58) = .17$ , *ns*. Model of self and model of other did correlate with each other,  $r(58) = .50$ ,  $p < .001$ .

To examine whether the manipulation had an effect on participants' felt security, I centered agreeableness and then entered it on the first step of a regression analysis with condition entered as a dummy variable. On the second step I entered their interaction term. Finally, I entered the measure of state felt security as the dependent variable. Results of this analysis revealed a main effect of agreeableness, such that agreeable participants were more secure than antagonistic participants,  $\beta = .40$ ,  $t(58) = 3.39$ ,  $p = .001$ , but no main effect of condition,  $\beta = -.19$ ,  $t(58) = -1.58$ , *ns*. The main effect of agreeableness was qualified by a significant interaction,  $\beta = .41$ ,  $t(57) = 2.37$ ,  $p < .05$ . Table 10 shows the predicted means from this interaction.

Table 10  
 Study 5: Predicted Scores for the Agreeableness  $\times$  Condition Interactions

	Low Agreeableness		High Agreeableness	
	Control	Threat	Control	Threat
State Felt Security	7.76	6.76	7.96	8.14
Mood	5.82	5.70	5.98	5.96
Satisfaction	7.99	7.08	7.91	8.34
Closeness	7.58	7.24	7.48	8.02
Relationship Ambivalence	2.75	3.87	2.81	1.85

NOTE: Low and high agreeableness refer to participants one standard deviation below and above the mean, respectively. Higher scores indicate greater felt security, better mood, greater satisfaction, greater closeness, and more ambivalence.

An examination of the simple slopes reveals that antagonistic participants reported feeling significantly less secure in the threat condition than in the control condition,  $\beta = -.47$ ,  $t(57) = -2.85$ ,  $p < .01$ . Agreeable participants reported similar feelings of security in both conditions,  $\beta = .08$ ,  $t(57) = 0.51$ , *ns*. These results are consistent with the idea that antagonistic people respond in a much more fragile way to potentially threatening information about their relationship. Whereas antagonistic participants were made to feel less secure, agreeable people were not affected.

Although it is clear that the manipulation affected the felt security of the antagonistic participants, as in Study 4, it is possible that participants might also become less satisfied with and distance themselves from their partners not only because they feel less secure but because they are upset. Thus, I repeated the above analyses, this time with mood as the dependent variable. This time there was no main effect of agreeableness on mood,  $\beta = -.04$ ,  $t(58) = -0.28$ , *ns*, nor was there a main effect of condition,  $\beta = .11$ ,  $t(58) = 0.82$ , *ns*. Finally, there was no

interaction between condition and agreeableness either,  $\beta = .04$ ,  $t(57) = 0.20$ , *ns*. This gives little reason to believe mood may account for any other effect I might observe. (However, I will still control for mood later, just to be certain.)

Next I tested the interaction between condition and agreeableness with satisfaction as the dependent variable. The analysis revealed that condition interacted significantly with agreeableness to predict relationship satisfaction,  $\beta = .44$ ,  $t(57) = 2.37$ ,  $p < .05$ . Simple slope analyses revealed that antagonistic people were significantly less satisfied with their relationships in the threat condition than in the control condition,  $\beta = -.40$ ,  $t(57) = -2.26$ ,  $p < .05$ . However, there was no significant difference between agreeable people in the threat or control conditions,  $\beta = .19$ ,  $t(57) = -1.10$ , *ns*. Furthermore, although there was no significant difference in satisfaction scores in the control condition,  $\beta = -.03$ ,  $t(57) = -0.19$ , *ns*, agreeableness was strongly associated with satisfaction in the threat condition,  $\beta = .55$ ,  $t(57) = 3.39$ ,  $p = .001$ .

As for closeness, the interaction between condition and agreeableness was also significant,  $\beta = .48$ ,  $t(57) = 2.00$ ,  $p = .05$ . Simple slope analyses revealed that although antagonistic people felt more distant from their partners in the threat condition, the effect was not significant,  $\beta = -.20$ ,  $t(57) = -1.06$ , *ns*. Interestingly, agreeable people felt closer to their partners, though only marginally,  $\beta = .32$ ,  $t(57) = 1.78$ ,  $p = .08$ . Furthermore, although agreeableness did not predict closeness in the control condition,  $\beta = -.06$ ,  $t(57) = -0.31$ , *ns*, it did so in the threat condition,  $\beta = .45$ ,  $t(57) = 2.67$ ,  $p < .01$ .

Finally, for relationship ambivalence, the interaction between condition and agreeableness also reached significance,  $\beta = -.43$ ,  $t(57) = -2.33$ ,  $p < .05$ . Simple slope analyses revealed that antagonistic participants became marginally more ambivalent about their relationships in the threat condition,  $\beta = .31$ ,  $t(57) = 1.77$ ,  $p = .08$ . Although agreeable people

became less ambivalent in the threat condition, it failed to quite reach statistical significance,  $\beta = -0.27$ ,  $t(57) = -1.54$ , *ns*. Furthermore, although agreeableness did not predict ambivalence in the control condition,  $\beta = .02$ ,  $t(57) = 0.08$ , *ns*, it did quite strongly in the threat condition,  $\beta = -.56$ ,  $t(57) = -3.44$ ,  $p = .001$ .

#### *Controlling for Personality and Mood*

Next, I tested to see if the effects of condition on agreeableness were influenced by mood or self-esteem. Thus, I repeated the above analyses and found that controlling for mood, model of self, and model of other, did not affect the interaction between condition and agreeableness on felt security,  $\beta = .40$ ,  $t(54) = 2.32$ ,  $p < .05$ . Furthermore, the interactions were not affected for satisfaction,  $\beta = .45$ ,  $t(54) = 2.27$ ,  $p = .01$ , closeness,  $\beta = .39$ ,  $t(54) = 2.15$ ,  $p < .05$ , or ambivalence,  $\beta = -.43$ ,  $t(54) = 2.78$ ,  $p < .01$ . Thus, the results are robust, even when using this more conservative test.

#### *Felt Security as a Mediator*

Finally, I wanted to see if state felt security mediated the effects of the interaction of agreeableness and condition on the relationship variables. According to Baron and Kenny (1986), four effects are necessary in order to support a mediational model. First, for this study, the interaction term needs to predict the outcome variables (i.e., the relationship variables; which it does for all of them). Second, the interaction term needs to predict the mediator (which it does,  $\beta = .50$ ,  $t(58) = 4.36$ ,  $p < .001$ ). Third, the mediator must predict the relationship variables when controlling for the interaction term. Finally, when controlling for the mediator, the interaction term must predict the relationship variables less strongly.

Thus, with respect to satisfaction, controlling for the interaction term, felt security significantly predicted satisfaction,  $\beta = .59$ ,  $t(57) = 5.21$ ,  $p < .001$ . Furthermore, controlling for

felt security reduced the association between the interaction term and satisfaction from  $\beta = .42$ ,  $t(58) = 3.53$ ,  $p < .001$ , to  $\beta = .13$ ,  $t(57) = 1.10$ , *ns*, a significant reduction,  $Z = 3.34$ ,  $p < .001$ .

With respect to closeness, controlling for the interaction term, felt security significantly predicted closeness,  $\beta = .53$ ,  $t(57) = 4.23$ ,  $p < .001$ . Controlling for felt security also reduced the association between the interaction term and closeness from  $\beta = .33$ ,  $t(58) = 2.67$ ,  $p < .01$ , to  $\beta = .07$ ,  $t(57) = 0.53$ , *ns*. Sobel's test of mediation indicated that this is a significant reduction,  $Z = 3.03$ ,  $p < .01$ .

Finally, with respect to ambivalence, controlling for the interaction term, felt security significantly predicted relationship ambivalence,  $\beta = -.30$ ,  $t(57) = -2.29$ ,  $p < .05$ . Controlling for felt security reduced the association between the interaction term and ambivalence from  $\beta = -.42$ ,  $t(58) = -3.54$ ,  $p < .001$ , to  $\beta = -.27$ ,  $t(57) = -2.04$ ,  $p < .05$ . This was also a significant reduction,  $Z = -2.03$ ,  $p < .05$ . Thus, felt security did mediate the association between the interaction of agreeableness and condition with the relationship variables.

## Discussion

Study 5 was intended to replicate the results of Study 4 without the use of a memory paradigm. For all three relationship measures, the interaction between condition and agreeableness was significant. Furthermore, this remained true even when controlling for mood, model of self, and model of other. Whereas antagonistic participants distance themselves from their partners after only being told that others are interested in people with their partner's personality profile, agreeable people seemed to respond to this threat by, if anything, pulling closer to their partner. Furthermore, mediation tests using state felt security as the mediator indicated that it was a significant mediator between the interaction of agreeableness and condition, and the relationship quality measures. Thus, the results are consistent with the idea

that felt security is in good part responsible for mediating the association between agreeableness and important relationship variables.

One unexpected result did occur, however: Agreeableness was not a significant predictor of felt security or the other relationship variables in the control condition. This is perhaps not surprising given chance and the relatively small sample size in the control condition. Another reason may be the result of a selection bias in the study. When participants were contacted to participate, all participants initially agreed. Furthermore, because I wanted participants' partners to also participate (as part of the manipulation), participants were given the choice of either allowing researchers to contact their partners directly, or to have the participant contact his/her partner first (in case they did not feel comfortable with a researcher contacting their partners). All but one participant stated that they would talk to their partners first. However, despite initially agreeing to participate, many participants never contacted us again. I suspect that perhaps the only participants who did participate may have been those who were in relatively better functioning relationships (this selection bias was not a problem in any of the other studies). Therefore, perhaps the only antagonistic people who participated were those who were more secure to begin with.<sup>4</sup> Regardless of the lack of correlations in the control condition, however, what is clear is that the manipulation did create a differences between the antagonistic and agreeable participants. Furthermore, as predicted, these differences were mediated by state felt security.

## General Discussion

This research is the first examination of the applicability of the dependence regulation model as an explanation for why agreeable people have more functional, high quality relationships than antagonistic people. Although past research has shown that agreeable people have more functional relationships than antagonistic people (Heller et al., 2004; Watson et al., 2000), little research has been done that suggests a reason for these differences. One possible reason for their better relationships is that agreeable people are better able to regulate their behavior than antagonistic people (Jensen-Campbell et al., 2002) and self-regulation has been associated with more harmonious interpersonal interactions (Finkel & Campbell, 2001). Although being better able to regulate oneself is good for one's relationship, it must only be part of the story. If one lacks the motivation to turn one's cheek when one's partner transgresses, all of the self-regulatory resources in the world will not help the relationship. Thus, I argued that one must examine the underlying motivation of agreeable people. I expected that it would be agreeable people's trust in their partners' regard for them that would lead agreeable people to pull closer to their partner and value them and their relationship more. Because antagonistic people are more skeptical of others, this lack of trust would cause them to become more distant from their partners and value them and their relationship less in order to protect themselves from the pain of possible rejection.

Study 1 examined the association between agreeableness and interpersonal trust to establish that in fact agreeable people are more trusting than antagonistic people. Although agreeableness had been associated with trust in previous research, I used a specific definition of trust developed by interpersonal relationships researchers. Trust was defined as holding positive interpersonal expectations (Holmes & Rempel, 1989) and operationalised as the degree to which

one believes others tend to behave in an agreeable manner toward oneself. The results indicated that agreeableness is indeed positively associated with interpersonal trust. Having established agreeableness's association with positive interpersonal expectations, Studies 2 and 3 tested whether this felt security (trust) mediates the association between agreeableness and relationship quality variables. That is, Studies 2 and 3 employed correlational methods to examine the applicability of the dependence regulation model to agreeable people's romantic relationships. Study 2 found support for the hypothesis that feeling of security leads to the regulation of attachment bonds for agreeable and antagonistic people. That is, not only was agreeableness associated with feelings toward one's partner and relationship, but this association was mediated through agreeableness's impressive association with perceived regard (a common measure of felt security; Murray et al., 2003). Furthermore, controlling for model of self (which has been associated with dependence regulation in other research) and model of other did not change these results, indicating a unique path to dependence regulation from agreeableness. Path analyses revealed that a model with model of self and agreeableness as predictors of perceived regard, which in turn predicted other relationship quality variables, fit the data quite well (with direct paths from the personality predictor variables to the outcome variables constrained to equal zero). Furthermore, alternative models with perceived regard as the outcome variable and the other relationship variables as the mediator(s), fit the data poorly.

Study 3 successfully replicated the results of Study 2 using a more diverse sample of participants. For Study 3, the dependence regulation model was applicable to both participants born in East-Asia (who also identified highly with their East-Asian cultural background) and participants of European descent, indicating that the model does not seem to be applicable only to North Americans.



Studies 4 and 5 employed experimental methods to explore the differential effects that minor relationship threats pose to agreeable and antagonistic participants. Because agreeable people are chronically more trusting than antagonistic people, I predicted that only antagonistic people would be strongly and negatively affected by the manipulations. Unlike agreeable people, for whom their partners' caring and affection is not in doubt, antagonistic people, because of their lack of trust, remain somewhat uncertain and insecure about their partners' regard for them. I expected that this fragile sense of being valued would be more easily undermined by the threats. Thus, in Study 4, using a diverse sample of participants similar to Study 3, I found that antagonistic people recalled responding to their partner's most recent criticism of them by defensively devaluing their partner and relationship. That is, when they recalled the last time their partner criticized something about them that the partner wanted the participant to change (a rather direct challenge to their perceived regard), antagonistic participants reported valuing their partner and relationship less. Agreeable participants did not report valuing their partner and relationship less, despite clearly being upset by the criticism. This pattern of results remained even after controlling for self-esteem and mood (as it is possible that people might devalue their partner and relationship simply because they are upset and hurt).

In Study 5, I found that once again agreeableness interacted with a relationship threat to predict participants' reactions, even though the threat was a very different stressor. That is, after being lead to believe that their partners had personality profiles that are in high demand for close relationships, antagonistic people became more insecure about their relationship, and responded by generally devaluing their relationship. This response is especially surprising given that the manipulation was a fairly indirect and ambiguous challenge to their feelings of security. However, as the dependence regulation model predicts, their increased insecurity was associated

with feeling less satisfied, more distant, and more ambivalent about their partner and relationship. Agreeable people, who had a non-significant tendency to feel more secure in the threat condition (perhaps because the threat automatically made them think of all of the evidence that suggests that their partners really do love them) tended to pull somewhat closer to their partners. In fact this is consistent with research by Murray et al. (2002) that attempted to make both low and high self-esteem individuals feel more insecure about their partner's regard for them. In their research, unlike low self-esteem individuals, participants with high self-esteem proved to be quite resilient to the threat manipulations used. Furthermore, when Murray et al. were able to make high self-esteem individuals feel somewhat insecure (in Study 3), those participants still did not distance themselves from their partner or relationship. Finally, as predicted, in Study 5 from the current research, mediational analyses indicated that state felt security always significantly mediated the association between the agreeableness/condition interaction and the other relationship quality variables.

Overall, the results of the five studies indicate the applicability of the dependence regulation model to agreeableness. Thus, in addition to self-esteem, agreeableness should be included as a path to dependence regulation. Both agreeableness and self-esteem (model of self) independently predicted trust in this thesis. Past theorizing has related self-esteem to trust because feelings toward oneself influence beliefs about how others view oneself (e.g., if Jim feels that he is not a person of worth, he will also suspect that others feel the same way about him). Given that agreeableness tends to be at best weakly associated with self-esteem, antagonistic people do not necessarily feel they are unworthy people. Instead, it is more likely that agreeableness is associated more directly with perceptions of others. As already mentioned, Study 1 demonstrated that agreeableness is associated with perceptions of others' responsiveness

toward the self. Thus, perceptions of oneself (self-esteem) and perceptions of others (agreeableness) should be seen as two complementary paths to dependence regulation. Although attachment avoidance has also been theorized to be associated with negative expectations about others' responsiveness in a similar manner as the way I am discussing agreeableness, in fact, to my knowledge no study has actually tested this (see Klohne & John, 1998). Furthermore, given that I included measures of attachment avoidance, which were not nearly as good predictors of dependence regulation as agreeableness was, it is likely that agreeableness taps this "model of other" better than avoidance does.

One area not addressed by this research, however, was how to make antagonistic participants feel more secure. In Study 5 I employed a condition intended to make antagonistic people feel more confident about their partner's regard (see footnote 3), the results of this condition, however, were somewhat inconsistent and unpredicted. This is perhaps not surprising given the difficulty Murray, Holmes, MacDonald, and Ellsworth (1998) had making low self-esteem individuals feel more secure in their relationships. Thus, I feel that an important area of future research is to explore ways to encourage antagonistic people to trust others. I feel that this is important because of the strong (causal) link between antagonistic people's feelings of insecurity in my studies and the poorer quality of their relationships. Although few people in our society are likely to feel sorry for antagonistic people (after all, they are fairly "antagonistic"), I hope that my research will provide others with a better understanding as to why they act in their unpleasant manner. Rather than viewing antagonistic people as being cold and uncaring, perhaps they should be viewed as insecure about others' motivations. Because of how well felt security mediated the association between agreeableness and the relationship quality variables, my research suggests that antagonistic people are not inherently hostile (as perhaps many lay

theorists might argue), but rather insecure about their partners' regard for them. That is, their lack of trust in their partners, seems to be what leads to the problems they have in their relationships.

How would making antagonistic people more secure affect their relationships? If therapists and counselors were to make them feel more secure would this improve their relationships? The available data suggests that their feelings of insecurity may in fact be unwarranted, at least early in their relationships. First, relationship partners do not seem to match on personality variables (Lykken & Tellegen, 1993), so antagonistic people are not pairing off with other antagonistic people. Second, in Study 5, I did collect relationship satisfaction data from the participants' partners. A cross-sectional analysis of the data (using data from all of the couples) revealed a marginally significant interaction between the length of their relationships and participants' agreeableness to predict partners' satisfaction,  $\beta = .21$ ,  $t(86) = 1.85$ ,  $p < .07$ . Analysis of the simple slopes revealed that although participants' agreeableness did not predict their partners' satisfaction early in relationships (with "early" defined as 1 standard deviation below the mean length of the relationships),  $\beta = -.17$ ,  $t(86) = -0.98$ , *ns*, it did later on in relationships (defined as 1 standard deviation above the mean for length of relationship),  $\beta = .28$ ,  $t(86) = 1.98$ ,  $p < .06$ . Similar results were obtained when I replaced partners' satisfaction with partners' *actual* regard for the participants. This suggests that antagonistic individuals' insecurities may be, in fact, unwarranted early in their relationships. The insecurity later in their relationships may be warranted as the result of the self-fulfilling nature of their lack of trust. Furthermore, when I control for partners' satisfaction and actual regard for the participant in the analyses reported in Study 5, the results of the interactions did not change. Thus, this lends support to the idea that participants' perceptions of their partners' actual feelings are quite

important, even after controlling for their partners' actual feelings. Thus, if counselors or therapists were to try to make antagonistic people feel more secure, it would be ethical, as it would likely help their relationships and make it less likely that they would suffer from the sting of actual rejection from their partners.

So how might one attempt to make antagonistic people feel more secure? One place to start could be on research on self-esteem that *has* made low self-esteem people feel more secure in their relationships. After all, antagonistic and low self-esteem individuals seem to have poorer relationships because of their insecurities. Some of the research on self-esteem has focused on making low self-esteem individuals feel more secure about themselves (as feeling negatively about oneself may lead one to assume that others must also think negatively of them). However, given that antagonistic people do not necessarily feel insecure about themselves, this is unlikely to help. Antagonistic people's problems seem to lie in their suspicions about others, rather than their feelings about themselves. Simply put, they believe that others are the problem. Thus, any research intended to make them feel more secure should focus on improving their views of others.

One interesting finding from studies 1 through 3 was the strength of the association between agreeableness and the measures of felt security (zero-order correlations ranged from .43 to .58). Furthermore, in Studies 2 and 3 when a measure of neuroticism was included, the two combined very impressively to predict feelings of felt security. The weighted mean  $R$  of the two studies was  $R = .68$ , indicating that almost half of the variance (46%) in felt security in specific relationships could be predicted by the variance in two of the broadest personality variables (two of the Big Five). This is quite intriguing given that personality is quite stable and does not seem to change because of relationship dynamics (Asendorpf, 1998). Thus, quite unfortunately, it may

be the case that how agreeable and neurotic a person is may predict quite strongly how secure (or insecure) they will feel in a relationship, before they even enter that relationship. Furthermore, given that agreeableness and neuroticism/model of self are not related, it is quite interesting that they seem to have their effect on close relationships through the same process. That is, they seem to affect relationships through their influence on people's expectations about others' interpersonal motivations.

### Conclusion

At the start of this thesis I asked the question of why agreeable people might have better relationships than antagonistic people. I cited research that shows that agreeable people have better self-control than antagonistic people (Jensen-Campbell et al., 2002), and that shows that self-control is related to accommodation (the tendency to react to a partner's transgression by inhibiting the impulse to respond antisocially and responding relatively prosocially; Finkel & Campbell, 2001) and reduced conflict in close relationships. I suggested that whereas self-control is indeed an important means of maintaining the quality of interactions, trust is related to the *willingness* to exert that self-control. That is, the motivation to maintain harmony seems to be equally essential as the social skills designed to achieve it. I predicted that trust would mediate the association between agreeableness and the relationship quality variables. That is, agreeable people would regulate how much they valued their partner and relationship according to how secure they felt in that relationship. As the dependence regulation model suggests, if we are concerned that our partner may not respond to our needs, then, in order to protect ourselves from the pain of felt rejection, we will value them and our relationship less. Thus, although self-control may be important, so is being motivated to exert control to achieve a harmonious relationship.

## References

- Asendorpf, J. B. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology, 74*, 1531-1544.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four category model. *Journal of Personality and Social Psychology, 61*, 226-244.
- Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences: Five factors in mate selection and marital satisfaction. *Journal of Personality, 65*, 107-136.
- Finkel, E. J., & Campbell, W. K. (2001). Self-control and accommodation in close relationships: An interdependence analysis. *Journal of Personality and Social Psychology, 81*, 263-277.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4*, 26-42.
- Goldberg, L. R. (1999). A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality Psychology in Europe, Vol. 7* (pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.
- Graziano, W. G., & Eisenberg, N. (1997). Agreeableness: A dimension of personality. In S. Briggs, R. Hogan, & W. Jones (Eds.), *Handbook of Personality Psychology* (pp. 795-824). San Diego, CA: Academic Press.

Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology, 70*, 820-835.

Heller, D., Watson, D., Illies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin, 130*, 574-600.

Holmes, J. G., & Rempel, J. K. (1989). Trust in close relationships. In C. Hendrick (Ed.), *Review of personality and social psychology* (Vol. 10, pp. 187-200). Beverly Hills, CA: Sage.

Hoshino-Browne, E., Zanna, A. S., Spencer, S. J., Zanna, M. P., Kitayama, S., & Lackenbauer, S. (2005). On the cultural guises of cognitive dissonance: The case of Easterners and Westerners. *Journal of Personality and Social Psychology, 89*, 294-310.

Jensen-Campbell, L. A., & Graziano, W. G. (2001). Agreeableness as a moderator of interpersonal conflict. *Journal of Personality, 69*, 323-362.

Jensen-Campbell, L. A., Rosselli, M., Workman, K. A., Santisi, M., Rios, J. D., & Bojan, D. (2002). Agreeableness, conscientiousness, and effortful control processes. *Journal of Research in Personality, 36*, 476-489.

Klohnen, E. C., & John, O. P. (1998). Working models of attachment: A theory based prototype approach. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment Theory in Europe* (pp. 115-140). New York: Guilford Press.

Lykken, D. T., & Tellegen, A. (1993). Is human mating adventitious or the result of lawful choice? A twin study of mate selection. *Journal of Personality and Social Psychology, 65*, 56-68.

Macdonald, G., & Margareta, J. (2006). Family approval as a constraint in dependence regulation: Evidence from Australia and Indonesia. *Personal Relationships, 13*, 183-194.



McFarland, C., & Ross, M. (1982). Impact of causal attributions on affective reactions to success and failure. *Journal of Personality and Social Psychology*, *43*, 937-946.

Murray, S. L., Bellavia, G. M., Rose, P., & Griffin, D. W. (2003). Once hurt, twice hurtful: How perceived regard regulates daily marital interactions. *Journal of Personality and Social Psychology*, *84*, 126-147.

Murray, S. L., Holmes, J. G. (1999). The (mental) ties that bind: cognitive structures that predict relationship resilience. *Journal of Personality and Social Psychology*, *77*, 1228-1244.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions: idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology*, *70*, 79-98.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (2000). Self-esteem and the quest for felt security: How perceived regard regulates attachment processes. *Journal of Personality and Social Psychology*, *78*, 478-498.

Murray, S. L., Holmes, J. G., MacDonald, G., & Ellsworth, P. C. (1998). Through the looking glass darkly? When self-doubts turn into relationship insecurities. *Journal of Personality and Social Psychology*, *75*, 1459-1480.

Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology*, *83*, 556-573.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the “Big Five” personality traits: Their connections with each other and with romantic relationship outcomes. *Personality and Social Psychology Bulletin*, *18*, 536-545.

Simpson, J. A., Ickes, W., & Blackstone, T. (1995). When the head protects the heart: Empathic accuracy in dating relationships. *Journal of Personality and Social Psychology*, *69*, 629-641.

Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*, *71*, 899-914.

Watson, D., Hubbard, B., Wiese, D. (2000). General traits of personality and affectivity as predictors of satisfaction in intimate relationships: Evidence from self- and partner-ratings. *Journal of Personality*, *68*, 413-449.

## Endnotes

<sup>1</sup>I also measured the rest of the Big-5 – extraversion, conscientiousness, and openness – in studies 2, 3, and 5 and found that controlling for them did not change the results.

<sup>2</sup>Because this was part of an honours thesis, for simplicity, I was unable to include neuroticism and attachment style.

<sup>3</sup>I also included a condition intended to make antagonistic people feel more secure. However, the results of this condition were very inconsistent and generally disappointing as it did not seem to make them feel more secure. This is consistent with Murray et al.'s (2002) findings that it is quite difficult to make low self-esteem individuals feel more secure.

<sup>4</sup>Although I will never know for sure, because the satisfaction and closeness measures used in Study 5 were identical to those used in Study 2, I can at least compare participants on this measure to see if they significantly differed. Indeed, participants in the control condition in Study 5 ( $M = 7.94$ ,  $SD = 0.94$ ) were significantly more satisfied with their relationships than participants in Study 2 ( $M = 7.43$ ,  $SD = 1.30$ ),  $t(116) = 2.38$ ,  $p < .05$ , and felt marginally significantly closer to their partners ( $M = 7.52$ ,  $SD = .92$ ) than participants in Study 2 ( $M = 7.17$ ,  $SD = 1.04$ ),  $t(116) = 1.72$ ,  $p < .09$ . Furthermore, the two groups did not differ in terms of their agreeableness ( $M = 4.17$ ,  $SD = .49$  for the control group in Study 5 and  $M = 4.12$ ,  $SD = .54$  for Study 2),  $t < 1$ , *ns*. Thus, this seems to support the idea that of the antagonistic people who did participate, they may have been more secure to begin with.