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"I'd Only Let You Down": Guilt Proneness and the Avoidance of Harmful Interdependence

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Abstract

Five studies demonstrated that highly guilt-prone people may avoid forming interdependent partnerships with others whom they perceive to be more competent than themselves, as benefitting a partner less than the partner benefits one's self could trigger feelings of guilt. Highly guilt-prone people who lacked expertise in a domain were less willing than were those low in guilt proneness who lacked expertise in that domain to create outcome-interdependent relationships with people who possessed domain-specific expertise. These highly guilt-prone people were more likely than others both to opt to be paid on their performance alone (Studies 1, 3, 4, & 5) and to opt to be paid based on the average of their performance and that of others whose competence was more similar to their own (Study 2 & 5). Guilt proneness did not predict people's willingness to form outcome-interdependent relationships with potential partners who lacked domain-specific expertise (Studies 4 & 5). It also did not predict people's willingness to form relationships when poor individual performance would not negatively affect partner outcomes (Study 4). Guilt proneness therefore predicts whether, and with whom, people develop interdependent relationships. The findings also demonstrate that highly-guilt prone people sacrifice financial gain out of concern about how their actions would influence others' welfare. As such, the findings demonstrate a novel way in which guilt proneness limits free-riding and therefore reduces the incidence of potentially unethical behavior. Lastly, the findings demonstrate that people who lack competence may not always seek out competence in others when choosing partners.

Keywords: Guilt Proneness; Interdependence; Self-Efficacy; Equity Theory; Free-Riding;

"I'd Only Let You Down": Guilt Proneness and the Avoidance of Harmful Interdependence

Guilt can motivate people to exert great effort toward the completion of tasks when their efforts affect others' welfare (Flynn & Schaumberg, 2012; Grant & Wrzesniewski, 2010). Whereas people who are not particularly prone to guilt may be willing to let others perform disproportionate shares of the work to be completed, a concern about letting others down drives highly guilt-prone people (i.e., people with a strong dispositional tendency to feel guilty for wrongdoings) to complete at least their fair share of the work. Because of this concern for the impact of their actions on others' welfare, highly guilt-prone people often outwork their less guilt-prone colleagues, demonstrate more effective leadership, and contribute more to the success of the teams and partnerships in which they are involved (Schaumberg & Flynn, 2012).

These behavioral tendencies can make highly guilt-prone people effective and sought-after work partners. However, the same attribute that makes them such effective partners may, in some instances, also lead these individuals to be reticent to enter into such partnerships. We propose that heightened concern for disappointing others may lead highly guilt-prone people to be less likely than those low in guilt proneness to form interdependent partnerships with people they see as more competent than themselves. In five studies, we test whether guilt proneness interacts with perceptions of potential partners' relative competence to predict whether and with whom individuals enter into outcome-interdependent relationships.

Because guilt is often portrayed as an emotion that strengthens social bonds (Baumeister, Stillwell & Heatherton, 1994; Tett, Jackson, & Rothstein, 1991), the notion that guilt proneness may inhibit the formation of some forms of interdependence may be surprising. Indeed, numerous scholars have demonstrated that guilt proneness is closely associated with two

behavioral tendencies that strengthen social bonds: avoiding committing moral transgressions and repairing social relationships after transgressions have occurred (e.g., Cohen, Panter, & Turan, 2012; Tangney & Dearing, 2002). However, if highly guilt-prone people are more likely than others to anticipate that they would feel bad about potentially letting work partners down by underperforming, they may avoid situations in which their outcomes are interdependent with others whom they perceive to be more competent.

We aim to make several contributions to theory by demonstrating that guilt proneness can predict whether and with whom people develop interdependent relationships. First, we demonstrate a novel way in which guilt proneness limits free-riding and therefore reduces the incidence of selfish behavior. Specifically, we show that guilt-prone people avoid free-riding by avoiding those relationships in which they are likely to free-ride. Second, we answer the call from scholars from social psychology (Levine & Moreland, 1998; Moreland & Levine, 2003), organizational studies (Williams & O'Reilly, 1998), entrepreneurship (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006), and strategic management (Conger & Lawler, 2001) to enrich the collective understanding of the drivers of team selection and choice of collaborative partners. In particular, our research challenges the traditional frameworks of team selection that suggest that people look for highly competent task partners when concerns about homophily, relational ability, interpersonal attraction, status, network and ecological constraints are held constant (cf. Casciano & Sousa Lobo, 2008). Finally, we seek to contribute to equity theory (e.g., Adams, 1965). Whereas previous research has demonstrated that people have aversive reactions to inequity and will take steps to eliminate it (e.g., Carrell and Dittrich, 1978), our research seeks to show that concerns about potential inequity can also predict whether, and with whom, people form interdependent relationships.

Equity Theory and Interdependence

Equity theory holds that individuals experience distress when they feel that the ratio of the amount of benefit they derive from a relationship to the amount of effort they invest in the relationship differs from the ratio of the amount of benefit derived by another person to the amount of effort the other person invests in the relationship (Adams, 1965). Inequity can create distress both for people who receive a disproportionately small share of the resources available relative to the effort they put forth and for people who receive a disproportionately large share of the resources available relative to the effort they put forth. When people receive less benefit out of relationships than they provide to relationship partners, they may experience anger and resentment. When people derive greater benefit from relationships than they provide to relationship partners, they may feel guilt or shame insofar as the relationship violates the norm of reciprocity (Şener, 2011; Walster, Walster, & Berscheid, 1978).

Equity theory predicts that people strive to eliminate these negative feelings by restoring equity in their relationships. Although numerous studies have demonstrated that people strive to maintain equity in their relationships (e.g., Radinsky, 1969; Telly, French, & Scott, 1971), other studies have demonstrated that people do not invariably follow an equity rule when allocating resources (Greenberg, 1978; Reis & Gruzen, 1976; Shapiro, 1975). Instead, people often prefer to allocate rewards either equally or on the basis of needs if these alternate frameworks provide them with more resources than would a contribution-based (i.e., equity-based) allocation rule (Leventhal, 1976). Moreover, some individuals are less attached to the norm of equity than are others and may therefore either prefer to be over-rewarded than to be rewarded equitably or be more tolerant than others of being-under-rewarded (Huseman, Hatfield, & Miles, 1987; King, Miles, & Day, 1993). Little research has examined why being the beneficiary of inequity

troubles some people more than it does others (but see Miles, Hatfield, & Huseman, 1994). We propose that guilt proneness may partially explain why individuals differ in their tolerance of inequity that favors themselves over others.

Guilt Proneness and Interdependent Relationships

Guilt is a negative emotion characterized by self-consciousness and a state of psychological discomfort stemming from information that one's behavior may not be socially or morally appropriate (Baumeister et al., 1994; Lewis, 1971; Tangney & Dearing, 2002; Tangney, Mashek, & Stuewig, 2007; Tracy & Robins, 2004). It is similar to the other self-conscious emotions of shame and embarrassment insofar as it concerns regret over past behavior, but it differs from both emotions insofar as it is focused on specific behaviors (rather than the self more generally) and leads people to attempt to solve the problems created by their behavior rather than hide from those problems (Cohen, Wolf, Panter, & Insko, 2011; Lewis, 1993; Schmader & Lickel, 2006; Tangney & Dearing, 2002; Tangney et al., 2007; Tracy & Robins, 2004; Wolf, Cohen, Panter, & Insko, 2010).

Whereas *guilt* refers to an emotion, *guilt proneness* refers to a personality trait - one that is indicative of the tendency to feel guilty about committing transgressions, even if those transgressions are not observed by other people (Cohen et al., 2011). People who are high in guilt proneness are more likely to take others' perspectives into account and feel empathy toward others than are people less prone to guilt (Cohen et al., 2011; Leith & Baumeister, 1998; Tangney, 1991). They can be described as having a heightened concern about potential negative consequences their actions could have on other people (Tangney et al., 1996). Accordingly, individuals with high levels of guilt proneness lie, cheat, steal, and engage in other antisocial and

criminal behavior less frequently than do those with low levels of guilt proneness (e.g., Cohen et al., 2011; Cohen, Panter, Turan, Morse, & Kim, in press; Tangney, Stuewig, & Martinez, 2014).

Owing to this heightened sense of concern for the impact of their actions on other people, highly guilt-prone people also contribute more effort in social tasks than do people less prone to guilt. Whereas highly guilt-prone people anticipate that they would feel bad if they contributed less than their share of effort to a social task, people less prone to guilt anticipate feeling little compunction about such selfish behavior, and are therefore more likely to free-ride and contribute less than their fair share of effort (Flynn & Schaumberg, 2012). Moreover, much of the other-serving behavior exhibited by people who are high in prosocial motivation, agreeableness, and sense of duty seems to stem from these individuals anticipating that they would feel guilty if they were to let others down (Grant & Wrzesniewski, 2010).

Highly guilt-prone people's aversion to disappointing others likely makes them very desirable as task partners, as their aversion allays concerns that they would free-ride on others' efforts. However, their concern for disappointing others may also make them less likely to form interdependent relationships when they believe their performance could harm potential partners. We posit that guilt proneness may interact with perceptions of relative competence to determine whether individuals will form outcome-interdependent relationships and with whom people will form outcome-interdependent relationships.

If a highly guilt-prone individual chooses to collaborate with a task partner who is relatively more competent within a given domain, this individual runs the risk of letting down that partner through his or her relatively poor performance. Although an individual who is less prone to guilt runs the same risk, this risk is of more consequence to the highly guilt-prone individual because highly guilt-prone individuals are more likely to anticipate feeling guilty

about the prospect of disappointing task partners. The highly guilt-prone individual should therefore anticipate that he/she will experience more guilt and regret than will the individual less prone to guilt. Given that people often act in ways designed to minimize the potential for subsequent regret (e.g., Loomes, Starmer, & Sugden, 1992; Zeelenberg, Beattie, van der Pligt, & de Vries, 1996), highly guilt-prone individuals should therefore be less likely to form interdependent partnerships with people they perceive to be relatively more competent. Instead, guilt-prone individuals should be more likely to work alone, or work with less competent task partners, as these options reduce the risk of eliciting guilt about poor performance that could harm the partner.[1] In contrast, people less prone to guilt may focus on how forming an outcome-interdependent relationship would benefit or harm themselves directly and pay little heed to the consequences their choices could have on the potential partner. As such, we hypothesize that highly guilt-prone people will be less likely than people less prone to guilt to enter into partnerships with people they perceive to be more competent than themselves.

Overview of the Present Research

We investigate in the five studies that follow the hypothesis that highly guilt-prone people will be less likely than others to create outcome-interdependent relationships with those they perceive to be more competent than themselves. We argue that whereas people low in guilt proneness seek to maximize their financial outcomes stemming from partnerships, people high in guilt proneness sacrifice economic interest in order to avoid feeling guilty. We focus on situations in which people's outcomes depend on another's performance, but not task interdependence, in which people actively work with one another (Deutsch, 1949). We investigate how interdependence of outcomes rather than shared social relations impact partner choice amongst guilt-prone and less guilt-prone participants because guilt proneness reflects a

heightened sensitivity to the potential negative consequences that one's behavior may have on the welfare of other people (Tangney, 1991, 1995), and outcome interdependence involves these potential consequences more directly than does task interdependence.

Throughout our studies we use participants' beliefs about their likely efficacy within a domain and/or manipulated levels of counterpart competence to determine perceived relative competence. Perceived efficacy is relevant to the current investigation because our research question centers on guilt about letting potential partners down, and such feelings are only likely to arise when people believe they have low efficacy relative to potential partners.

Study 1

Method

One-hundred-sixteen participants (58% female; M_{age} = 34.0, *SD* = 11.9) were recruited through Amazon's Mechanical Turk (mturk.com), which is an online marketplace through which workers are compensated for performing small tasks (see Buhrmester, Kwang, & Gosling, 2011 for information about this participant pool). The study investigated whether dispositional guilt proneness interacts with self-efficacy to predict participants' likelihoods of choosing to make their performance-based payments interdependent with those of a highly-competent other.

Participants began the study by listing their first name, two hobbies that they enjoyed, and their occupation or field in school. We also asked participants to use a seven-point scale (1 = *Very Little*, 7 = *Very Much*) to indicate how much they knew about each of the following fields: accounting, astronomy, physics, popular music, television, and world geography. We collected all of this information ostensibly to share it with their potential partner for the accounting task.

We then administered Cohen et al.'s (2011) Guilt and Shame Proneness (GASP) scale. This scale consists of four four-item subscales. The guilt negative behavior-evaluation subscale is indicative of guilt proneness (e.g., "After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?", $\alpha = 0.69$). The other subscales measure related constructs: guilt-repair orientation ("You strongly defend a point of view in a discussion, and though nobody was aware of it, you realize that you were wrong. What is the likelihood that this would make you think more carefully before you speak?", $\alpha = 0.70$); shame proneness (i.e., shame-negative-self-evaluation) (e.g., "After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?", $\alpha = 0.72$); and shame-withdrawal orientation (e.g., "After making a big mistake on an important project at work in which people were depending on you, your boss criticizes you in front of your coworkers. What is the likelihood that you would feign sickness and leave work?", $\alpha = 0.56$). Response options for all items ranged from 1 *(very unlikely*) to 7 (*very likely*).

In this study and those that follow, we first analyze the guilt proneness subscale and how it interacts with self-efficacy to predict partner choice. Unless otherwise noted, all analyses reported in the text are based on these models. Despite the widespread use of partial correlations in extant research on guilt proneness and shame proneness (e.g. Tangney & Dearing, 2002), we urge caution in interpreting results from models that include all GASP subscales. Much of the shared variance between guilt proneness, guilt-repair orientation, shame proneness, and shame-withdrawal orientation is meaningful—indicative of negative self-consciousness—and therefore should not be removed lest the meaning of the constructs are changed. Nonetheless, given the

widespread use of the partialing technique in the guilt proneness literature, we also report the results of models that control for all the GASP subscales in the tables for interested readers.

After completing the GASP, participants received the following instructions about the accounting trivia test:

> You will be completing a trivia test on the topic of *accounting*. You will be paid based either on your performance alone or on your performance and that of a partner. If you choose to be paid based on your performance alone, you will receive $0.50 for each question that you answer correctly. If you choose instead to be paid based on your performance and that of a partner, you will receive $0.25 for each question that you answer correctly and $0.25 for each question that your partner answers correctly. Likewise, your partner will receive $0.25 for each question that he/she answers correctly and $0.25 for each that you answer correctly. As such, your payments would depend on each other's performance on the accounting trivia test.

Participants then indicated whether they could successfully answer a sample accounting question. The sample question was: "Which government agency has the authority to set acceptable accounting methods in the U.S.?" On the next page of the survey, we revealed to participants that the Securities Exchange Commission was the correct answer to the sample question, and asked participants if they knew the correct answer to that sample question. We then administered two measures of self-efficacy: a four-item measure (α = .96; M = 3.28, SD = 1.66) taken from Williams and Deci (1996; sample item: "I am capable of performing well on this test of accounting knowledge." 1 = *strongly disagree*, 7 = *strongly agree*); and a three-item measure (α = .92; M = 3.39, SD = 1.57) taken from Bandura (1990; sample item: "How competently will you perform on this test of accounting knowledge?" 1 = *not at all*, 7 = *very*

much). We averaged the items in each of the two measures, then standardized those scores, and then averaged the two standardized scores ($\alpha = .93$) to create a self-efficacy composite index. We used this index of self-efficacy in lieu of participants' initial self-ratings of their competence in the field of accounting because the self-efficacy questions followed the sample question, which likely gave participants a more realistic assessment of how well they would perform.

After participants completed the self-efficacy measures, they saw a description of their potential partner, "Craig", and were asked to decide whether they wanted to be paid based on their performance alone or the average of their performance and that of their partner. The partner was described as a man named Craig who enjoyed golf and fishing and worked as an insurance salesman. We also listed Craig's expertise in a number of domains. Critically, he ostensibly reported his knowledge of accounting as a six out of seven. Participants chose from one of two options: "I would like my performance alone to determine my payment" and "I would like my performance and my partner's performance to be combined to determine each of our payments".

Participants then reported their gender and age, which have been shown to correlate with guilt proneness (Cohen et al., 2011, 2012).[2] Finally, we debriefed participants and told them that they would not actually be taking an accounting survey.

Results

One participant had missing data on gender. Because the main analyses include gender as a covariate, the regression results are based on 115 respondents with complete data. Table 1 displays bivariate correlations among the variables. These variables were coded as follows: Male was effects-coded (-1 = *female*, 1 = *male*); age in years was mean-centered; guilt proneness

and self-efficacy were standardized to z-scores (as were the other GASP subscales); and interdependence choice was dummy-coded (0 = *alone*, 1 = *interdependence*).

We hypothesized a Guilt Proneness X Self-Efficacy interaction on the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (independence). To test this hypothesis, we computed a logistic regression analysis with choice regressed on the covariates (male, age)[3], guilt proneness, self-efficacy, and Guilt Proneness X Self-Efficacy. We entered main effects in Model 1 and added the interaction term in Model 2. Model 3 presents the same analysis, controlling for other GASP subscales. The predicted Guilt Proneness X Self-Efficacy interaction was significant in Model 2 and marginally significant in Model 3. Figure 1 depicts this interaction (from Model 2) for low and high levels of guilt proneness and self-efficacy, defined as 1 standard deviation below and above the mean. We also tested higher order interactions with age and gender, but none were significant.

We then analyzed the significance of the simple slopes at predicted values of 1 standard deviation below and above the mean (using the online utility created by Preacher, Curran, & Bauer, 2006, available at: http://quantpsy.org/interact/index.html). This analysis revealed that the difference between low and high self-efficacy was significant at low guilt proneness (t = 3.21, p = .002), but not at high guilt proneness (t = 1.21, p = .23). The difference between low and high guilt proneness was marginal at low self-efficacy (t = 1.65, p = .10), and nonsignificant at high self-efficacy (t = -0.99, p = .32).

Discussion

The results of Study 1 indicate that guilt proneness interacts with self-efficacy to determine people's likelihood of choosing to be interdependent with competent others. Both the tendency of highly guilt-prone individuals with low self-efficacy to eschew interdependence and

the tendency of highly guilt-prone individuals with high self-efficacy to choose interdependence more often than did individuals low in guilt proneness contributed to the significant interaction. Importantly, Study 1 offers initial evidence that guilt proneness is associated with a reduced desire for interdependence with a competent partner when individuals are not confident about their competence within a domain.

Study 2

Study 2 employed the same design as Study 1 with one key exception. Rather than having participants choose either to have their financial outcomes determined by joint performance with a highly competent other (i.e., an accounting expert) versus by their performance alone, we had them chose among partners with varying levels of expertise in accounting. We predicted an interaction such that individuals low in self-efficacy and low in guilt proneness and would choose more competent partners than would individuals low in self-efficacy and high in guilt proneness.

Method

A total of 192 participants (45.5% female; M_{age} = 31.7, SD = 11.0) recruited through mturk.com participated in the study. The predictor variables in the study included guilt proneness and self-efficacy; the other GASP subscales were included as controls in supplementary analyses. The outcome variable was the expertise of the chosen partner. The procedure paralleled that of Study 1 save for one major exception: Participants were required to have outcome interdependence. They chose with whom amongst seven different potential partners their payoffs would be linked. Participants viewed the profiles of seven people, whose self-reported expertise in accounting, and other topics, ranged from 1 to 7. A sample profile is provided below:

Name: Jennifer

Hobbies: Riding horses; Reading

Occupation or Field in School: Full-time mom

Self-rated expertise:

Accounting: 2 Astronomy: 6 Physics: 5

Popular Music: 3 Television: 4 World Geography: 4

They then selected one of these partners. Following the selection of the partner, participants responded to a post-decision questionnaire containing a variety of items for exploratory purposes, including those administered in Study 1.

As in Study 1, we observed satisfactory internal consistency for the four guilt proneness items from the GASP ($\alpha = .78$) and used a standardized composite in our analyses. Guilt-repair orientation ($\alpha = .64$), shame proneness ($\alpha = .64$), and shame-withdrawal orientation ($\alpha = .61$), were included in supplementary analyses. We also observed satisfactory internal consistency for the four Williams and Deci (1996) self-efficacy items ($\alpha = .96$; $M = 3.28$, $SD = 1.55$) and the three Bandura (1990) self-efficacy items ($\alpha = .95$; $M = 3.31$, $SD = 1.56$). As in Study 1, we averaged the two standardized scores ($\alpha = .97$) to create a self-efficacy composite index. We included male (- 1 = *female*, 1 = *male*) and age in years (mean-centered) as covariates in all analyses.

We coded the focal outcome variable of *partner choice* according to the target's accounting expertise. A score of 1 on the partner choice variable indicated that the chosen partner was low in accounting expertise, whereas a score of 7 indicated that the chosen partner

was high in accounting expertise (intermediate scores indicate intermediate expertise in accounting).

Results

One participant did not report gender. Since the main analyses include gender as a covariate, the regression results are based on 191 respondents with complete data. Table 1 shows bivariate correlations among the variables. We hypothesized a Guilt Proneness X Self-Efficacy interaction on partner choice, and we tested this hypothesis with a linear regression analysis (see Table 2, Model 2 of Study 2). In Model 3 we controlled for other GASP subscales. The Guilt Proneness X Self-Efficacy interaction was significant in Model 2 and marginally significant in Model 3. Figure 2 depicts this interaction (from Model 2) for low and high levels of guilt proneness and self-efficacy, defined as one standard deviation below and above the mean. We also tested higher order interactions with age and gender, but none were significant.

As in Study 1, we analyzed the significance of the simple slopes at predicted values of one standard deviation below and above the mean using the online utility created by Preacher et al. (2006). The difference between low and high guilt proneness was significant at both low self-efficacy (t = -3.08, p = .002) and high self-efficacy (t = 2.89, p = .004). The difference between low and high self-efficacy was not significant at high guilt proneness (t = -.08, p = .41), but was significant at low guilt proneness (t = 2.46, p = .01).

Discussion

Study 2 tested whether a high level of guilt proneness increases the likelihood that individuals with low self-efficacy link their payoffs to the outcomes of relatively incompetent partners. Results supported this hypothesis.

Study 3

In Study 3, we seek to extend the previous findings by testing whether partner expertise and/or self-efficacy interact with guilt proneness to predict outcome interdependence choices. We also examine whether guilt proneness predicts anticipated guilt about letting partners down in this particular situation and, if so, whether anticipated guilt predicts avoidance of outcome interdependence.

Method

We recruited 253 participants (44% female; M_{age} = 30.1, *SD* = 10.4) through mturk.com. A total of 232 of these participants passed an attention check (i.e., "I am reading this question, so I will select Slightly Agree") and therefore participated in the study. The predictor variables in the study included guilt proneness, self-efficacy, and partner expertise. The outcome variable was participants' choice of interdependent outcomes.

Participants began the study by completing the guilt proneness (i.e., negative behavior-evaluation) subscale of Cohen et al.'s (2011) GASP measure. In contrast to the prior studies, participants did not complete the other three GASP subscales. Participants then completed a distraction task (i.e., the Multicultural Personality Questionnaire; van der Zee & van Oudenhoven, 2000), which was included so that it would not be obvious to participants that the purpose of the study was to examine the effects of guilt proneness. After completing the introductory questionnaires, participants read that they would be taking an accounting quiz. They were instructed: "You will receive chances to win a $50 lottery. Approximately 1 in 25 people will win a prize of $50. Your chances will depend either on your performance alone or on your performance and that of a partner. Some of you will choose which option you prefer during the study. For some of you, the decisions may be made by a randomly-selected counterpart." In fact, we allowed all participants to choose whether their chances would depend

on their own performance alone or on their performance and that of a partner, and all participants were entered into the lottery for the $50 prizes.

We then instructed participants to answer five practice questions. After answering those questions, participants completed the Williams and Deci (1996) ($\alpha = .93$; $M = 2.96$, $SD = 1.44$) and Bandura (1990) ($\alpha = .86$; $M = 3.00$, $SD = 1.47$) measures of self-efficacy used in Studies 1 and 2. As in the previous studies, we averaged the items in each of the two measures, standardized those scores, and then averaged the two standardized scores ($\alpha = .90$) to create a self-efficacy composite index. We then reminded participants of the number of practice questions they answered correctly and displayed the number of practice questions their ostensible counterpart answered correctly. Participants in the high partner expertise (low partner expertise) condition were instructed that their counterpart answered 4 (1) of 5 questions correctly.

Participants next used seven-point scales (1 = *strongly disagree*, 7 = *strongly agree*) to respond to two items measuring anticipated guilt. These items included "I would feel guilty about averaging payments with a partner who earned more money for me than I earned for him/her." and "It would bother me to average payments with a partner who earned more money for me than I earned for him/her." These items were standardized and then averaged to form an index of anticipated guilty feelings ($\alpha = .90$).

Participants then viewed and responded to the following question: "Would you like your chances of winning the $50 lottery to be based on your performance alone on the upcoming test? Or, would you prefer that your performance and your counterpart's performance be averaged to determine your chances of winning the $50 lottery? In this case your counterpart's chances of winning the $50 lottery would also be based on the average of your performance and the counterpart's performance." Participants then completed a ten-item accounting test and several

other items for exploratory purposes. They concluded the experiment by providing their gender and age.

Results

Table 3 displays means and correlations. We conducted a binary logistic regression to examine the effects of guilt proneness, self-efficacy, and expertise of the partner on participants' likelihood of choosing to have their performance averaged with that of the potential partner to determine each of their payments. As in the previous studies, we controlled for age and gender. As shown in Table 4, self-efficacy reduced the likelihood that participants would choose to have their payments linked with their potential partner. There was no main effect of guilt proneness or partner expertise, however the interaction of Self-Efficacy X Partner Expertise was significant, as was the Guilt Proneness X Partner Expertise interaction (Table 4, Model 2). No other effects were significant.

We probed the significant Self-Efficacy X Partner Expertise interaction shown in Model 2 of Table 4. This analysis revealed that among those whose potential partner lacked expertise in accounting, self-efficacy negatively correlated with the likelihood of choosing to link payments with those of a partner, B = -0.68, SE = .23, Wald χ^2 = 8.57, p = .003. Among those who had a potential partner with expertise in accounting, self-efficacy did not correlate with the likelihood of choosing to link payments with those of a partner, B = -.07, SE = .22, Wald χ^2 = 0.09, p = .760. The difference between the likelihood of choosing the low-expertise partner and the likelihood of choosing the high-expertise partner was not significant for participants low in self-efficacy (B = .052, SE = .093, t = 0.56, p = .58) but was significant for participants high in self-efficacy (B = .244, SE = .094, t = 2.61, p = .01).

The significant Guilt Proneness X Partner Expertise interaction revealed by Model 2 (Table 4) is shown in Figure 3. Probing this interaction revealed that guilt proneness was negatively associated with the likelihood of choosing to pair outcomes with a partner who possessed expertise, B = -.58, SE = .24, Wald χ^2 = 5.66, p = .017. Guilt proneness was positively associated with the likelihood of choosing to pair outcomes with a partner who lacked expertise, B = .49, SE = .23, Wald χ^2 = 4.47, p = .034. The difference between likelihood of choosing the low-expertise partner and the likelihood of choosing the high-expertise partner was significant for participants low in guilt proneness (B = .319, SE =.091, t = 3.49, p = .001) and nonsignificant for participants high in guilt proneness (B = .139, SE = .091, t = 1.52, p = .13).

We examined the hypothesis that anticipated guilt about letting down the partner mediated the relationship between guilt proneness and participants' willingness to pair outcomes with a potential partner when, and only when, that potential partner possessed expertise. We tested this prediction using a moderated mediation model in which we specified that guilt proneness predicts how much guilt people anticipate experiencing, and the link between guilt proneness and avoidance of interdependence and the link between anticipated guilt and avoidance of interdependence are each moderated by the expertise of the potential partner (see Model 15 in Hayes (2013) for visual display).

As predicted, guilt proneness significantly predicted how much guilt participants anticipated experiencing if they were to earn less money for their partner than the partner were to earn for them (B = .268, SE = .071, t = 2.29, p < .001). Moreover, anticipated guilt interacted with partner expertise to predict the choice of outcome interdependence, B = -.958, SE = .318, z = 3.01, p = .002. A bootstrap analysis showed that the 95% bias-corrected confidence interval for the size of the indirect effect excluded zero in the partner expertise condition (-0.438, -0.079)

but included zero in the non-expert partner condition (-0.194, 0.079). This suggests a significant indirect effect of guilt proneness on the likelihood to choose interdependence with a partner through the mechanism of anticipated guilt when the potential partner possesses expertise but not when the partner lacks expertise (MacKinnon, Fairchild, & Fritz, 2007).

Discussion

Study 3 revealed that highly guilt-prone people were less likely than others to pair their outcomes with those with expertise in the focal domain. There was a significant indirect effect of guilt proneness on the choice of interdependence through anticipated guilt. Thus, concerns about the guilt that could stem from letting down the potential partner linked guilt proneness and the choice of independence over interdependence. In contrast to the prior studies, we did not find that self-efficacy moderated the relationship between guilt proneness and participants' choice of outcome independence or interdependence. Instead, highly guilt-prone people seemed to pay relatively less attention to their own likely performance on the upcoming test and instead focused more on the partner's level of expertise.

Study 4

In Study 4, we examine whether guilt proneness correlates with undergraduate students' willingness to form interdependent outcomes with other students after they have had the opportunity to become "fast friends" through conversation (Aron, Melinat, Aron, Vaollone, & Bator, 1997). A limitation of the prior three studies is that they all took place in a socially restricted internet setting where participants were anonymous. Study 4 addresses this limitation by sampling undergraduate students who meet and interact with their potential counterpart during the experiment.

We examine interdependence choices in two different situations (randomly assigned)—one with an additive payment structure and one with a disjunctive payment structure. The manipulation of payment structure can potentially give us insight into when and why guilt proneness influences outcome interdependence. Participants in the additive condition run the risk of decreasing their partner's payoffs through poor performance, whereas participants in the disjunctive condition cannot affect their partner's payoffs. We predicted an interaction such that that guilt proneness would predict interdependence choices in the additive condition but not the disjunctive condition. We further predicted a negative association between guilt proneness and choice of interdependent payment in the additive condition.

Method

A total of 178 undergraduate business students (49.4% female; M_{age} = 20.8, *SD* = 2.6) at a private university on the West Coast of the United States participated in the experiment in exchange for course credit and the chance to earn money. All participants completed Cohen et al.'s (2011) guilt proneness and shame proneness measures as a part of a series of pre-screen questionnaires (we did not include the guilt repair orientation or shame withdrawal orientation subscales due to time constraints in the pre-screening study, which included questionnaires from more than ten other researchers). Participants completed the main study at least four weeks after completion of the pre-screen questionnaires. We averaged the items within the guilt-proneness (α = .70) and shame-proneness (α = .76) subscales and used standardized composites in the analyses. In regards to the time-lag between the guilt proneness assessment and the main study, we note that prior research has demonstrated that guilt proneness has good test-retest reliability over a period of 13 weeks, similar to other personality traits (Cohen, Panter, Turan, Morse, & Kim, 2013; Cohen et al., in press).

The experimenter started the main study by instructing participants that they would be participating in three separate studies. Participants first engaged in a five-minute conversation with one other participant. Participants were instructed to discuss one or more of five potential topics that were taken from Aron and colleague's (1997) fast friends methodology, which was designed to promote interpersonal closeness rapidly. These five topics included: "Given the choice of anyone in the world, whom would you want as a dinner guest?"; "Would you like to be famous? In what way?"; "Before making a telephone call, do you ever rehearse what you are going to say? Why?"; "What would constitute a 'perfect' day for you?"; "Is there something that you've dreamed of doing for a long time? Why haven't you done it?"

After the conversation, the experimenter separated each pair of participants by placing them in different rooms. The experimenter then distributed an instruction sheet asking participants to complete a short questionnaire designed to assess how they see their personality and that of their counterpart. They also completed a separate questionnaire that asked them to answer questions related to adult attention deficit disorder. We included these questionnaires only to lend credibility to the experimenter's statement that participants would be participating in separate studies.

The experimenter then explained to the participants that they would be learning how to make origami hearts by folding paper. This task was adapted from procedures used in prior research (e.g., Gino, Argote, Miron-Spektor, & Todorova, 2010). In each of the participants' rooms a computer screen displayed a website showing them how to make the origami heart. The experimenter instructed participants that they would have ten minutes to learn how to make the origami heart, and that they should continue practicing by making more hearts after making the first heart. Participants learned that some of them would be able to choose the basis on which

they would be paid for assembling the origami hearts. They also learned that, after the ten-minute practice period, they would have ten minutes to create as many origami hearts as they could.

After the ten-minute practice period, the experimenter looked into each room ostensibly to count the number of origami hearts each participant made within the practice period. The experimenter then returned to each room and observed how many hearts the participant had made. The experimenter then announced that the participant's conversation partner had made four more hearts than the participant had made. For example, if the participant in a room had made two origami hearts during the practice period the experimenter stated, "Ok, your conversation partner made six origami hearts." Thus, the experimenter led participants in all cases to believe that their conversation partner had outperformed them.

The experimenter then asked participants to complete a short questionnaire. This questionnaire included the choice of whether to create outcome interdependence with their prior conversation partner. We randomly assigned participants to the *additive payment structure* condition or *disjunctive payment structure* condition. Participants in both conditions read "You will have ten minutes to make as many origami hearts as possible. You will be paid one of two ways. If you choose the first option you will be paid $.60 for every origami heart that you make. Your conversation partner will also be paid $.60 for every origami heart that he/she makes."

The second option depended upon the condition. In the additive payment structure condition participants read:

> If you choose the second option you will be paid $.30 for every origami heart that you make and $.30 for every origami heart that your conversation partner from the earlier exercise makes. Your conversation partner would also be paid $.30 for every origami

> heart that you make and $.30 for every origami heart he/she makes. The choice is yours. Your partner will not have a choice in the matter.

In the disjunctive payment structure condition participants read:

> If you choose the second option your payment depends upon whether you or your partner makes more hearts. If your partner creates more origami hearts than you create, each of you will receive $.60 for every origami heart that your partner makes. If you create more origami hearts than your partner, each of you would receive $.40 for every origami heart that you make and $.30 for every origami heart that your partner makes.[4]

In our analyses we used a dummy variable to designate whether the participant read the additive (1) or disjunctive (0) payment structure instructions. In both conditions the first option for payment choice signified a choice of independence and the second option signified choice of interdependence. This choice of interdependent versus independent payment served as our primary outcome variable. As a manipulation check to ensure that participants believed that their counterpart would outperform them, we also asked participants how many hearts they anticipated making in the upcoming ten-minute period and how many hearts they anticipated that their conversation partner would make in the upcoming ten-minute period. Additionally, we measured the number of origami hearts assembled.

Results

Manipulation checks and exclusions. We excluded the results of two participants who had guilt proneness scores greater than 2.5 standard deviations away from the mean.[5] We also excluded the results of six participants who were origami experts and therefore believed that the difference between the number of hearts they would make and the number that their counterpart

would make was more than 2.5 standard deviations above the mean for that metric. We excluded these participants because several of them expressed doubt to the experimenter that their counterpart could have assembled more origami hearts than they did. After these exclusions, we conducted a pairwise t-test, which confirmed that participants anticipated that their conversation partners would create more hearts (M = 6.08, SD = 2.93) in the upcoming ten-minute period than they would create (M = 4.88, SD = 2.72), $t(169) = 6.63$, $p < .001$.

Interdependence versus independence. Table 5 displays means and correlations and Table 6 shows the logistic regression results. As shown in Model 1 of Table 6, there was no main effect of guilt proneness or partner expertise. In Models 2 and 3, we see that the interaction of Guilt Proneness X Additive Structure was marginally significant, both when we did not control for shame proneness (p = .096) and when we controlled for shame proneness, p = .081. No other effects were significant.

As hypothesized, guilt proneness negatively predicted participants' likelihood of choosing interdependence in the additive payment structure condition (B = -.58, SE = .26, Wald χ^2 = 5.04, p = .025) but not in the disjunctive payment structure condition, B = .03, SE = .23, Wald χ^2 = 0.13, p = .91. These simple effects held regardless of whether shame proneness was included in the model.

Origami Hearts Assembled. We were also interested in exploring the number of hearts that participants assembled in the payment round of the study. To this end, we conducted a linear regression analysis to determine whether guilt proneness, additive (versus disjunctive) payment structure condition, age, gender, and the Guilt Proneness X Additive Payment Structure interaction term predicted the number of hearts made. This analysis revealed main effects for guilt proneness (B = .71, SE = .21, $t(165) = 3.41$, p = .001), age (B = .14, SE = .08, $t(165) = 1.80$,

p = .074), and gender (B = -1.06, SE = .41, t(165) = 2.62, p = .010). However, the Guilt Proneness X Additive Payment Structure interaction term was not significant (B = .28, SE = .40, t(164) = 0.71, p = .48), which reflected the fact that guilt proneness positively predicted the number of hearts made in both the additive (B = .76, SE = .31, t(77) = 2.45, p = .017) and the disjunctive (B = .68, SE = .29, t(85) = 2.32, p = .022) conditions.

Discussion

Study 4 extends the findings from the prior studies by showing that guilt proneness predicts people's likelihood of forming interdependent partnerships with those whom they have met in a face-to-face setting and with whom they have become "fast friends." Thus, the study demonstrates that the core effect demonstrated in the previous three studies holds in more social settings than may be found on the internet. It also mitigates concerns about potential demand effects, as there were several weeks of temporal separation between the administration of the guilt proneness items and the decision of whether to form outcome interdependence.

Study 4 provided support for our hypothesis that the type of payment structure associated with the task would moderate whether guilt proneness would predict the choice of outcome interdependence over outcome independence. As predicted, we found the negative simple effect of guilt proneness on interdependence choice to be significant in the additive payment structure condition but not in the disjunctive payment structure condition; however, we note that the interaction term was only marginally significant. We therefore cannot definitively conclude that the payment structure associated with a task moderates whether guilt proneness predicts whether people will form outcome interdependent relationships with others. Nonetheless, the pattern of results was consistent with our theorizing that guilt proneness decreases the likelihood of

choosing outcome interdependence with a high-performing partner when the partner's payments can be negatively affected by one's own poor performance.

Finally, we also examined performance in the origami task (i.e., number of hearts assembled). Assuming performance is at least somewhat driven by effort, as well as skill, we might have expected guilt proneness to predict heart creation more so in the additive condition than the disjunctive condition. We did not find this, but did find that individuals high in guilt proneness overall created more hearts than those low in guilt proneness regardless of the payment structure condition. This finding is consistent with prior research showing that guilt-prone individuals are more conscientious (Cohen et al., 2011, 2013, in press).

Study 5

Studies 1 through 3 demonstrated that highly guilt-prone people are more likely than people less prone to guilt to avoid interdependent relationships with strangers. Study 4 demonstrated the same phenomenon among undergraduate students who had the opportunity to become "fast friends" by conversing with one another (Aron et al., 1997). In Study 5, we test our hypotheses with a sample of people who have ongoing relationships with one another. We do so by testing whether graduate business school students' guilt proneness predicts whether they would opt to have their grades and those of one of their classmates jointly determined. We manipulate whether the classmate is a close friend, whether the classmate is performing well or poorly in the course, and whether the participant and the classmate would ever learn each other's identities. We did so to examine whether guilt-prone people are more or less likely to avoid interdependence with people when they have close versus distant relationships. One could imagine that highly guilt-prone people would be especially reticent to create negative financial consequences for those about whom they really care. Alternatively, it is possible that people

would feel sufficiently comfortable in a close relationship to assure themselves that their potential partner would not mind incurring some cost in order to be interdependent.

As in previous experiments, we ask participants whether they would opt for interdependence or independence. Additionally, we ask participants whether they would prefer to have their outcomes jointly determined by their performance and the performance of a classmate who is performing exceptionally well (poorly) in the course or jointly determined by their performance and the performance of a classmate performing similarly well in the class.

Method

A total of 208 graduate business students (32% female) at a large private university on the West Coast of the United States completed two sets of online questionnaires that served as the basis for class discussions of decision-making, ethics, and motivation. In the first questionnaire, participants completed the guilt proneness (i.e., guilt negative behavior-evaluation; $\alpha = .71$) and shame proneness (i.e., shame negative self-evaluation; $\alpha = .65$) subscales of Cohen et al.'s (2011) GASP measure (the other subscales were not administered). Three weeks later, 201 of the students completed the second set of questionnaires. We randomly assigned these participants to one of five conditions: *expert friend, expert classmate, anonymous expert classmate, non-expert friend,* and *non-expert classmate*. To this end, participants then read one of five versions of the following question:

> Imagine that you have the chance to choose how your operations instructor determines what grade to give you on the final exam. If you choose Option 1, your final exam grade would depend on your performance alone. If you choose Option 2, your final exam grade would be based on the average of your score and the score of a classmate who is performing exceptionally well in the class so far. The classmate's grade on the final

exam would also be based on the average of the classmate's score and your score. You would not get to choose which classmate would be involved. You and your classmate would be told each other's name regardless of whether you decide to choose Option 1 or Option 2. If the choice were yours alone, which option would you choose?

Partner Expertise Manipulation. In the expert friend, expert classmate, and anonymous expert classmate conditions participants read that they could average their score with a close friend or classmate who was performing exceptionally well in the class (as shown in the description of the question above), whereas participants in the non-expert friend and non-expert classmate conditions read that they could average their score with a close friend or classmate who was performing exceptionally poorly in the class. *Partner expertise* was coded 0 = *low expertise partner*, 1 = *high expertise partner*.

Classmate versus Friend Manipulation. In the expert classmate and non-expert classmate conditions participants read that they could average their score with a classmate who was performing exceptionally well/poorly in the class (as shown in the description of the question above), whereas participants in the other conditions read that they could average their score with a close friend who was performing exceptionally well/poorly in the class. Participants in all cases had formed some degree of social relationship with the potential counterpart, as students complete all first term classes with the same cohort of students. *Close friend* was coded 0 = *classmate, 1 = close friend.*

Anonymity Manipulation. In the non-anonymous expert classmate condition we told participants, "Neither you nor your classmate would ever be told the identity of the other person involved." In all other conditions, participants read that they and their classmate/friend would be told each other's name regardless of whether they decided to choose Option 1 or Option 2 (as

shown in the description of the question above). *Anonymous* was coded 0 = *counterpart learns identity*, 1 = *counterpart never learns identity.*

After participants answered the first interdependence question, they read the following text: "Now imagine that you must choose either 1. to have your performance and that of the person described previously determine each of your grades or 2. to have your performance and that of a person whose class performance so far matches your own performance determine each of your grades. If the choice were yours alone, which option would you choose?"

The predictor variables in the study included guilt proneness, partner performance, and anonymity. There were two outcome variables: 1) participants' choice of interdependence versus independence, and 2) participants' choice to form an interdependent relationship with someone performing exceptionally well or poorly versus someone whose class performance so far matches their own performance. As in Studies 1 and 2, we conducted supplementary analyses that controlled for shame proneness.

Results

Table 7 displays means and correlations and Table 8 displays logistic regression results. As in previous studies, we controlled for gender. We did not ask participants for their ages, but note that most participants were between 26 and 32 years old. Figure 5 shows the simple slopes for guilt proneness in each of the four conditions, for both of the dependent measures. These simple slopes were calculated from Models 2 and 5 of Table 8.

Interdependence versus independence. Our first analysis examined the choice of having one's performance averaged with that of the potential partner versus having one's own performance alone determine the grade. The main effects for guilt proneness and partner expertise were significant (as shown in Table 8, Model 1), such that highly-guilt prone

participants were less willing than those low in guilt proneness to choose outcome interdependence and all participants were less likely to create outcome interdependence with non-expert others than they were with expert others. The main effects for anonymity and being paired with a close friend were not significant.

Although no interactions were significant (Table 8, Model 2), guilt proneness negatively predicted participants' likelihood of choosing interdependence with an expert potential partner over independence, B = -.45, SE = .21, Wald χ^2 = 4.41, p = .034. Guilt proneness did not predict participants' likelihood of choosing interdependence with a non-expert potential partner, B = .06, SE = .34, Wald χ^2 = 0.33, p = .86.

Choice of interdependence partners. Our second analysis examined the choice of having one's performance averaged with that of a potential partner who was either performing exceptionally well or exceptionally poorly versus having one's performance averaged with a classmate performing similar to the participant. As displayed in Model 4 of Table 8, we found a significant positive main effect of partner expertise, such that people were more willing to work with an expert versus a non-expert partner. No other main effects were significant. However, this main effect was qualified by an interaction. As shown in Model 5 of Table 8, the Guilt Proneness X Partner Expertise interaction was significant, as was the Guilt Proneness X Friend interaction.

Probing the Guilt Proneness X Partner Expertise interaction revealed that guilt proneness was marginally negatively associated with the likelihood of choosing to pair outcomes with a partner who was performing well, B = -.41, SE = .22, Wald χ^2 = 3.49, p = .062, but guilt proneness was not associated with choosing to pair outcomes with a partner who was performing poorly, B = .14, SE = .29, Wald χ^2 = 0.23, p = .630. Specifically, people who scored one standard deviation above the mean on guilt proneness only had a 30% likelihood of opting to pair

with the high-performing partner instead of the partner performing similar to them. In contrast, people who scored one standard deviation below the mean on guilt proneness had an 81% likelihood of opting to pair with the high-performing partner instead of the partner performing similar to them. Guilt proneness was not associated with the likelihood of choosing to pair outcomes with a partner who was performing poorly, $B = .14$, $SE = .29$, Wald $\chi^2 = 0.23$, $p = .630$.

Probing the Guilt Proneness X Friend interaction revealed that guilt proneness was marginally negatively associated with the likelihood of choosing to pair outcomes with a classmate who was performing exceptionally well or poorly in the operations class instead of choosing to pair outcomes with a classmate who was performing similarly well in the class, $B = -.44$, $SE = .24$, Wald $\chi^2 = 3.38$, $p = .066$. Guilt proneness was not associated with the likelihood of choosing to pair outcomes with a friend who was performing exceptionally well or poorly instead of choosing to pair outcomes with a classmate who was performing similarly well in the class, $B = -.002$, $SE = .02$, Wald $\chi^2 = 0.00$, $p = .991$

Discussion

Study 5 extends the prior studies by demonstrating that guilt proneness predicts people's likelihood of choosing outcome interdependence with people with whom they have ongoing relationships. In contrast to prior studies, guilt proneness did not interact with partner expertise to predict choice of interdependence or independence. However, guilt proneness did predict the choice to be independent when the potential partner possessed expertise. It also predicted the choice to eschew interdependence with a potential partner possessing expertise when the alternative was to be interdependent with someone whose level of expertise paralleled their own level of expertise. It did not predict either choice when the potential partner lacked expertise. Thus, the overall pattern of findings in Study 5 are consistent with our theorizing that individuals

who are high in guilt proneness are relatively less likely than those who are low in guilt proneness to free-ride on others' expertise.

General Discussion

Across five studies, people high in guilt proneness were less likely than people low in guilt proneness to link their outcomes with potential partners whom they perceived to be relatively more competent. Specifically, highly guilt-prone participants who lacked expertise in a given domain were more likely than people less prone to guilt to opt to have their own performance alone determine their payment rather than have their payment and that of a highly-knowledgeable counterpart jointly determine each of their payments (Studies 1, 3, 4, & 5). They were no more likely than people less prone to guilt to choose to have their own performance alone determine their payment instead of having their payment and that of a similarly unknowledgeable counterpart jointly determine each of their payments (Studies 3 & 5). Moreover, when forced to pair their outcomes with someone, highly guilt-prone participants with low self-efficacy chose to pair their outcomes with less competent partners than did participants low in guilt proneness (Studies 2 & 5).

Our findings suggest that highly guilt-prone people who feel that they lack expertise in a given domain are unwilling to put themselves in positions wherein they might be unable to contribute their fair share, as doing so would mean that their actions would have a negative impact on their counterparts. The results therefore build on previous work (e.g., Schaumberg & Flynn, 2012) that demonstrates that highly guilt-prone people are more sensitive to the impact of their actions on other people than are those who are less guilt-prone. The results extend this previous work by demonstrating that guilt proneness can predict whether, and with whom,

people form relationships. The findings also demonstrate that actors' self-efficacy and, more strongly, the potential partners' relative expertise moderate this effect, such that highly guilt-prone people are reluctant to create interdependent relationships when their potential partners are likely to provide more benefit to them than they are to their partners. Because it is in these situations that people would financially benefit from interdependent relationships, highly-guilt prone people are thus sacrificing financial gain as a result of their concern about how their actions would influence others' welfare.

While an egocentric emphasis on one's own level of ability may lead highly guilt-prone people with low self-efficacy to avoid working with partners altogether, three of the studies indicate that people take others' expertise into account when deciding whether to form partnerships. In Study 2, participants high in guilt proneness and low in self-efficacy opted for partners with less expertise than did other participants. In Study 3, participants high in guilt proneness and low in self-efficacy did not display a reticence to work with potential partners lacking expertise. Similarly, highly guilt-prone students in Study 5 were no more likely than students less prone to guilt to form interdependent relationships with potential partners lacking expertise.

Highly guilt-prone people's partnership formation decisions may appear curious when considered from a narrow economic perspective alone. Guilt-prone decision-makers sacrifice economic payoffs both when they eschew partnerships with more competent others and when they form partnerships with people less competent than themselves. In each case, the economic value they sacrifice is largely transferred to their potential task partner. By choosing to eschew a partnership with someone perceived to be more competent than the self, guilt-prone decision-makers may benefit the potential partners not chosen by enabling them either to work alone and

thereby rely on their own competence or to find other partners who are also highly competent. Similarly, by choosing to partner with people perceived to be less competent than the self, guilt-prone decision-makers may benefit their partners by enabling them to share in the rewards attributable to the highly guilt-prone individual's competence. Thus, from an economic perspective highly guilt-prone people seem to sacrifice their own economic interest for the combined economic interest of their potential partners and for their own emotional well-being. These results complement the findings from economic decision-making studies showing that guilt-prone decision-makers will sacrifice financial self-interest for ethical concerns (Bracht & Regner, 2013; Cohen et al., 2011).

In contrast to the economic self-interest perspective, if one assumes that equity concerns drive people's behavior more strongly than does economic self-interest, the behavior of people relatively low in guilt proneness may be more interesting than the behavior of people relatively high in guilt proneness. Viewed from this perspective, our results suggest that people who are dispositionally low in guilt proneness may have relatively few qualms about free-riding and potentially harming those more competent than them.

Theoretical Contributions

The present research contributes to theory in several key ways. First, our findings extend existing models of partner choice and team selection to show that emotional tendencies of decision-makers can correspond to the extent to which they seek out or avoid interdependence with competent partners. Existing models of partner choice and team selection (e.g., Pinto, 2009; Ruef, Aldrich, and Carter, 2003; Slater, 1955) do hold that people consider more than competency concerns when selecting new partners and teammates and therefore sometimes choose less competent teammates over more competent ones. However, these models also hold

that when concerns about homophily, relational ability, interpersonal attraction, status, network constraints, and ecological constraints are held constant, people will choose to work with the most competent people available. Our findings demonstrate that people selecting new partners and/or team members may not select on high competence – even when the new partner/team member poses no competitive threat. The contribution of the present work to the collective understanding of team selection is therefore not limited to showing that a personality variable can predict selection decisions. Rather, it also shows that a core factor (i.e., competence) that most people find desirable in partners may be an undesirable trait in the eyes of highly guilt-prone people in situations in which their own relative level of competence is low.

Our findings also contribute to the literature on minimum resource theory (Gamson, 1961), bargaining theory (Komorita & Chertkoff, 1973), and other theories of coalition bargaining. These theories generally hold that people act in accordance with the prevailing assumption that people form coalitions that allow them to maximize their individual payoffs. Our findings suggest that people who are highly guilt-prone may not seek to maximize their individual payoffs if doing so would harm potential coalition partners. Future research should examine more thoroughly how guilt and other moral emotions affect negotiation behavior in settings where coalitions are possible.

In addition, our results support Bandura's (1978) reciprocal determinism argument, which holds that people's behaviors both influence and are influenced by the situations in which they find themselves. Whereas traditional interactionist models of behavior hold that the person, the situation, and the interaction of the person and the situation combine to influence behavior, our work shows that an aspect of the person (i.e., guilt proneness) can influence whether that

person will put himself/herself in one type of situation (i.e., relationships characterized by outcome interdependence) that is likely to have a strong influence on behavior.

Finally, our research contributes to equity theory by showing that highly guilt-prone people may be able to avoid experiencing the guilt stemming from inequitable relationships in more ways than previously known. Previous work has demonstrated that highly guilt-prone people avoid guilt by being: relatively less likely to behave in antisocial ways (Cohen et al., 2011, 2012, 2013; Stuewig & McCloskey, 2005; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996); relatively more likely to engage in repair-oriented tactics when they do act in antisocial ways (Tangney & Dearing, 2002); and relatively more likely to exert high levels of effort in group tasks (Flynn & Schaumberg, 2012). Our work complements this work by showing that highly guilt-prone people may also avoid guilt by deciding not to form some types of social relationships. Specifically, we show that people may avoid interdependent relationships that may potentially lead to the experience of guilt.

Limitations and Directions for Future Research

Our research is not without limitations. First, it examined only partnership decisions in dyads. Highly guilt-prone people who lack self-efficacy may feel less hesitant to form interdependent relationships with competent partners if there are two or more people joining the group instead of one person joining the partnership. If highly guilt-prone individuals can spread the negative impact of their own inferior performance across multiple individuals they may anticipate less guilt. Consistent with this idea, previous research has demonstrated that moral transactions are seen as less unethical if the negative impact of the transgression is spread across many victims rather than falling only on a single victim (Jones, 1991). As such, future research could productively examine how guilt proneness relates to team selection in larger teams.

While we examined how guilt proneness predicted participants' willingness to form interdependent relationships with anonymous strangers, classmates, and close friends, we did not study how guilt proneness affects decisions in communal relationships such as those occurring within families or romantically-attached couples. People may not avoid interdependence in such relationships if caring is viewed within these relationships as more important than strict equality of outcomes or contributions (Fiske, 1992). Future research examining how guilt proneness may yield different effects on interpersonal behavior depending upon which relational model best characterizes the relationship.

It would also be interesting to examine if relational utility moderates the strength of the correlation between guilt proneness and the desire to avoid forming outcome interdependent relationships. As Nelissen (2013) has shown, actors experience more guilt when their transgressions negatively affect others who have considerable influence over the actors' well-being than they do when the same transgressions negatively affect people who have little influence over the actors' well-being. It may be that highly guilt prone people become more reticent to form outcome interdependencies with others when they suspect that doing so may end up costing them in the future.

The use of data from Amazon's Mechanical Turk (mturk.com) population in three out of our five studies may also limit the conclusions that may be drawn from our results. Although Buhrmester, Kwang, & Gosling, (2011) found that MTurk data is generally as reliable as data collected through typical experimental methods, it is possible that MTurk workers may have become more sophisticated over the last several years and, in doing so, have come to provide less reliable data. We believe that our use of student data in Studies 4 and 5 partially mitigates that concern, but recognize that different populations may yield different effect sizes.

Future research should also examine how guilt proneness relates to partnership decisions when there is not only goal or outcome interdependence but also task interdependence. While we designed our studies to focus on how concerns for outcomes would predict the decision-making process of people forming partnerships, it would also be interesting to learn how the prospect of working together toward a common goal would differentially predict partner-selection for high- and low- guilt prone people. In short, it would be worthwhile to know how task interdependence affects the decision-making process.

Lastly, it would also be interesting to examine whether highly guilt-prone people would show the same reticence to enter into interdependent relationships when highly competent others invite them to be their partners. In this case, highly guilt-prone people may anticipate feeling guilty about declining the invitation and therefore accept the invitation. Similarly, highly guilt-prone people may not show the same reticence to form interdependent relationships when they are acting on behalf of others. In such instances highly guilt-prone people may experience conflicting pressures to avoid disappointing the people whom they represent and to avoid disappointing potential partners.

Conclusion

Our findings demonstrate that guilt proneness reduces the likelihood of forming outcome-interdependent relationships when people feel they have low competence relative to potential partners. Our results suggest that people avoid forming such interdependent relationships because they are concerned that they will feel guilty about letting down those potential partners. In showing that guilt proneness can predict whether and with whom people form interdependent relationships, this research demonstrates a novel way that guilt-prone people limit the possibility that they will feel guilty in the future.

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Table 1. Studies 1 & 2: Means, standard deviations, and bivariate correlations.

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Interdependence Choice	--	-0.34 **	0.01	-0.17	-0.06	0.05	-0.02	-0.12
2. Self-Efficacy	-0.07	--	-0.14	-0.04	-0.11	-0.11	0.25 **	0.25 **
3. Guilt Proneness	-0.05	-0.10	--	0.50 **	0.57 **	0.02	-0.16	0.21 *
4. Guilt-Repair Orientation	-0.11	-0.07	0.66 **	--	0.56 **	-0.07	-0.17	0.19 *
5. Shame Proneness	-0.06	-0.17 *	0.61 **	0.52 **	--	0.11	-0.37 **	0.08
6. Shame-Withdrawal Orientation	-0.17 *	0.15 *	-0.08	-0.11	0.03	--	-0.21	-0.07
7. Male	0.61 **	0.26 **	-0.26 **	-0.15	-0.21 **	-0.04	--	0.18 *
8. Age	0.52 **	0.01	0.43 **	0.32 **	0.29 **	0.03	-0.21 **	--
Study 1 Mean	1.68	0.00	5.22	5.52	5.40	3.02	1.42	34.02
Study 1 Std. Deviation	0.47	0.96	1.24	1.07	1.16	1.14	0.50	11.87
Study 2 Mean	6.32	0.00	5.30	5.51	5.46	2.89	1.54	31.72
Study 2 Std. Deviation	1.51	0.97	1.34	1.00	1.09	1.12	0.50	11.03

Notes. Study 1 correlations are presented above the diagonal. Study 2 correlations are presented below the diagonal.

Study 1: *N* = 116. Study 2: N = 192. Male was -1 = *female*, 1 = *male*; interdependence choice was coded 0 = *alone*, 1 = *interdependence*.

*$p < .05$, **$p < .001$

Table 2. Study 1: Regression of the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone). Study 2: Linear regression of chosen partner expertise.

	Study 1						Study 2					
	Binary Logistic						Linear					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	0.89	0.23 **	1.02	0.25 **	1.08	0.27 **	6.33	0.10 **	6.37	0.11 **	6.39	0.11 **
Male	0.19	0.23	0.20	0.24	0.17	0.26	-0.02	0.12	-0.02	0.12	-0.05	0.12
Age	-0.13	0.23	-0.13	0.23	-0.09	0.24	0.00	0.12	-0.03	0.12	0.03	0.12
Self-Efficacy	-0.87	0.26 **	-0.90	0.28 **	-0.99	0.31 **	-0.11	0.12	-0.11	0.12	-0.04	0.12
Guilt Proneness	-0.07	0.24	-0.19	0.27	0.12	0.34	-0.09	0.12	-0.82	0.27 **	-0.59	0.39
Guilt-Repair Orientation					-0.70	0.34 *					-0.07	0.36
Shame Proneness					0.05	0.36					-0.27	0.31
Shame-Withdrawal Orientation					0.02	0.23					-0.15	0.27
Guilt Proneness X Self-Efficacy			0.50	0.26 *	0.62	0.37 †			0.23	0.08 **	0.19	0.11 †
Guilt-Repair X Self-Efficacy					-0.03	0.34					-0.04	0.10
Shame Prone. X Self-Efficacy					0.04	0.31					0.07	0.09
Shame-Withdr. X Self-Efficacy					-0.15	0.29					-0.06	0.07

Note. Study 1: $N = 115$. Study 2: $N = 191$. Male was coded -1 = female, 1 = male; age in years was mean-centered; guilt proneness and self-efficacy were standardized to z-scores; In Study 1 models interdependence choice was coded 0 = *alone*, 1 = *interdependence*. In Study 2 models chosen partner expertise ranged from 1 to 7.

† $p < .10$, *$p < .05$, **$p < .001$

Table 3. Study 3 Means, standard deviations, and bivariate correlations.

	Correlations	1	2	3	4	5	6	7
1	Choice	--	-0.02	-0.20 **	0.09	-0.15 *	0.04	0.01
2	Guilt Proneness		--	0.23 **	0.12	0.05	-0.24 **	0.39 **
3	Anticipated Guilt			--	0.14 *	-0.13 *	-0.05	0.02
4	Partner Expertise Manip.				--	0.00	-0.11	0.24 **
5	Self-Efficacy Manip.					--	0.02	0.13 *
6	Male						--	-0.14 *
7	Age							--
	Mean	0.49	5.21	4.36	0.52	0.00	0.56	30.12
	Std. Deviation	0.50	1.20	1.60	0.50	0.96	0.20	10.37

Notes. N = 232. Male was coded -1 = *female*, 1 = *male*; partner expertise was coded 0 = *low expertise partner*, 1 = *high expertise partner*; and interdependence choice was coded 0 = *alone*, 1 = *interdependence.*

*$p < .05$, **$p < .001$

Table 4. Study 3: Logistic regression of the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone).

	Model 1		Model 2		Model 3	
	B	*SE*	*B*	*SE*	*B*	*SE*
Intercept	-0.26	0.20	-0.28	0.22	-0.31	0.22
Male	0.11	0.14	0.17	0.15	0.15	0.15
Age	0.03	0.15	0.08	0.16	0.07	0.16
Partner Expertise	0.43	0.28	0.49	0.29 †	0.52	0.30
Self Efficacy	-0.34	0.15 *	-0.74	0.23 **	-0.78	0.24 **
Guilt Proneness	-0.03	0.15	0.57	0.24 *	0.68	0.27 *
Guilt Proneness X Partner Expertise			-1.15	0.32 **	-1.24	0.34 **
Guilt Proneness X Self-Efficacy			0.19	0.19	0.45	0.31
Self-Efficacy X Partner Expertise			0.76	0.32 *	0.84	0.33 *
Guilt Prone. X Self-Eff. X Partner Exp.					-0.45	0.39

Note. $N = 232$. Male was coded -1 = *female*, 1 = *male*; age in was mean-centered; guilt proneness and self-efficacy was standardized; partner expertise was coded 0 = *low expertise partner*, 1 = *high expertise partner*; and interdependence choice was coded 0 = *alone*, 1 = *interdependence.*

Table 5. Study 4: Means, standard deviations, and bivariate correlations.

	Correlations	1	2	3	4	5	6	7	8	9	10
1	Choice	--	-0.12	0.01	-0.04	-0.13	-0.07	-0.06	-0.09	-0.05	-0.12
2	Guilt Proneness		--	0.55 **	0.07	0.16 *	0.13	0.03	0.30 **	-0.18 *	0.04
3	Shame Proneness			--	-0.07	0.03	-0.11	0.17 *	0.19 *	-0.28 **	-0.25 **
4	Additive Condition				--	0.13	0.23 **	-0.14	0.10	-0.12	0.05
5	Anticipated Hearts (Self)					--	0.65 **	0.34 **	0.57 **	-0.08	0.07
6	Anticipated Hearts (Counter)						--	-0.49 **	0.34 **	0.01	-0.06
7	Antic. Difference in Hearts							--	0.23 **	-0.10	0.15
8	Hearts Assembled								--	-0.23 **	0.12
9	Male									--	0.14
10	Age										--
	Mean	0.49	5.40	5.66	0.48	4.88	6.08	-1.21	5.03	0.01	20.83
	Std. Deviation	0.50	1.01	1.07	0.50	2.72	2.93	2.37	2.73	1.00	2.57

Note. Male was coded -1 = *female*, 1 = *male*; additive condition was coded 0 = *disjunctive payment structure condition*, 1 = *additive condition*, interdependence choice was coded 0 = *alone*, 1 = *interdependence.* Anticipated Hearts (Self) refers to the number of hearts that the participant estimated that they would make in the ten-minute period. Anticipated Hearts (Counter) refers to the number of hearts that the participant estimated that his/her would make in the ten-minute period.

*$p < .05$, **$p < .001$

Table 6. Logistic regression of the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone) in Study 4.

	Model 1		Model 2		Model 3	
	B	*SE*	*B*	*SE*	*B*	*SE*
Intercept	0.01	0.22	0.03	0.22	0.03	0.22
Additive Payment Structure	-0.13	0.32	-0.12	0.32	-0.10	0.32
Guilt Proneness	-0.26	0.17	0.00	0.23	0.04	0.30
Shame Proneness					-0.04	0.33
Male	-0.12	0.16	-0.11	0.16	-0.07	0.17
Age	-0.23	0.17	-0.21	0.18	-0.19	0.18
Guilt Proneness x Additive Struc.			-0.56	0.34 †	-0.76	0.44 †
Shame Proneness x Additive Struc.					0.31	0.43

Note. Male was coded -1 = *female*, 1 = *male*; additive condition was coded 0 = *disjunctive condition*, 1 = *additive condition*, interdependence choice was coded 0 = *alone*, 1 = *interdependence.* Anticipated Hearts (Self) denotes the number of hearts that the participant estimated that they would make in the ten-minute period. Anticipated Hearts (Counter) denotes the number of hearts that the participant estimated that his/her counterpart would make in the ten-minute period.

† $p < .10$, *$p < .05$, **$p < .001$

Table 7. Study 5: Means, standard deviations, and bivariate correlations.

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Interdependence Choices								
1. vs. Independence	--							
2. vs. Partner with Sim. Expertise	0.35 **	--						
3. Guilt Proneness	-0.15 *	-0.14	--					
4. Shame Proneness	-0.14 *	-0.06	0.48 **	--				
5. Partner Expertise	0.30 **	0.37 **	-0.14 **	-0.05	--			
6. Close Friend	0.08	0.03	-0.01	0.01	0.26 **	--		
7. Anonymous	-0.09	-0.09	0.10	0.05	-0.43 **	-0.42 **	--	
8. Male	-0.09	0.04	-0.20 **	-0.25 **	0.10	-0.03	-0.06	--
Mean	0.23	0.35	5.60	5.49	0.43	0.42	0.19	0.34
Std. Deviation	0.42	0.48	1.12	1.17	0.50	0.49	0.40	0.94

Note. N = 201. Male was coded -1 = *female*, 1 = *male*; partner expertise was coded 0 = *low expertise partner*, 1 = *high expertise partner; close friend was coded 0 = classmate, 1 = close friend; anonymous was coded as* 0 = *counterpart learns identity*, 1 = *counterpart never learns identity*.

*$p < .05$, **$p < .001$

Table 8. Study 5 logistic regression of the choice to have one's grades determined by joint performance with expert or non-expert partner (interdependence) versus individual performance (alone) in Models 1-3 and versus performance with a partner possessing similar expertise as the self in Models 4 - 6.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Intercept	-2.11	0.42 **	-2.43	0.61	-2.43	0.61 **	-1.54	0.36 **	-1.34	0.40 **	-1.45	0.42 **
Guilt Proneness	-0.35	0.18 *	-0.18	0.36	-0.20	0.42	-0.21	0.16	-0.10	0.30	0.10	0.39
Shame Proneness											-0.54	0.40
Partner Expertise	1.67	0.45 **	2.07	0.70 **	2.08	0.71 **	1.84	0.39 **	1.46	0.54 **	1.55	0.54 **
Pair with Close Friend	0.09	0.39	0.65	0.79	0.64	0.79	-0.21	0.36	-1.05	0.74	-3.21	2.30
Anonymous	0.50	0.62	0.80	0.76	0.81	0.76	0.54	0.51	0.34	0.55	0.47	0.56
Male	-0.42	0.20 **	-0.41	0.20 *	-0.41	0.20 *	-0.03	0.18	-0.04	0.18	-0.02	0.19
Partner Expertise x Guilt Proneness			-0.34	0.41	-0.32	0.55			-0.94	0.46 *	3.94	2.59
Partner Expertise x Friend			-0.75	0.92	-0.75	0.92			1.14	0.87	3.30	2.34
Guilt Proneness x Friend			0.14	0.37	0.18	0.71			0.95	0.43 *	2.52	1.40
Partner Expertise x Shame Proneness											0.75	0.62
Shame Proneness x Friend											-0.84	1.07
Partner Expertise x Guilt Prone. x Friend					-0.06	0.84					-3.37	2.67
Partner Expertise x Shame Prone. x Friend											1.12	1.22

Note. N = 201. Male was coded -1 = *female,* 1 = *male*; partner expertise was coded 0 = *low expertise partner*, 1 = *high expertise partner; close friend was coded 0 = classmate, 1 = close friend; anonymous was coded as* 0 = *counterpart learns identity*, 1 = *counterpart never learns identity.* † $p < .10$, *$p < .05$, **$p < .001$

Figure 1. Study 1 (*N* = 115). The interactive effect of Guilt Proneness X Self-Efficacy on the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone). High and low values of guilt proneness and self-efficacy represent one standard deviation above and below the mean.

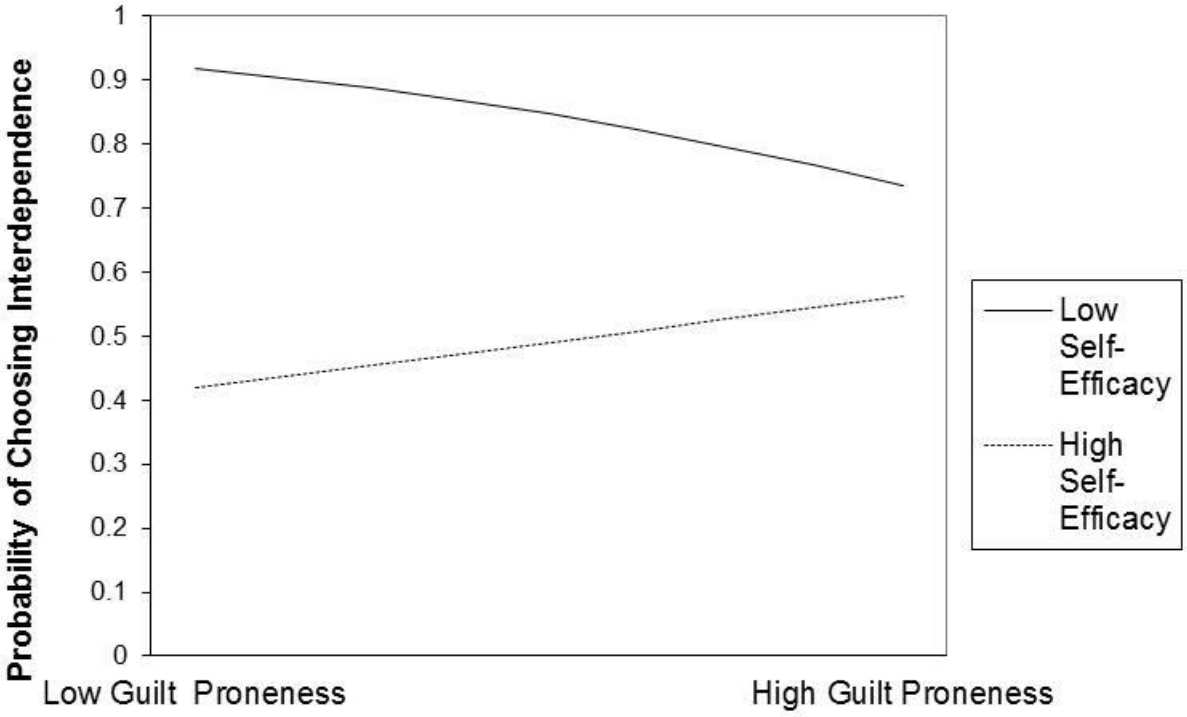


Figure 2. Study 2 (*N* = 191). The interactive effect of Guilt Proneness X Self-Efficacy on partner choice (higher scores on partner choice represent greater partner expertise). High and low values of guilt proneness and self-efficacy represent one standard deviation above and below the mean.

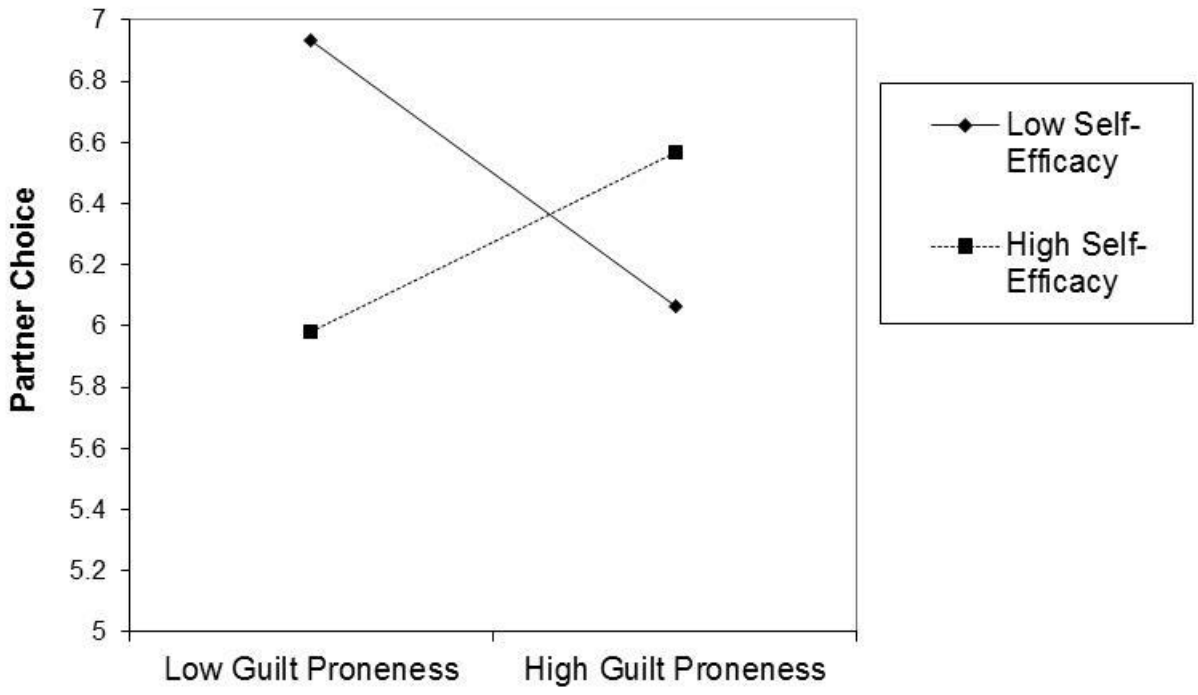


Figure 3. Study 3 (*N* = 232). The interactive effect of Guilt Proneness X Partner Expertise on the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone). High and low values of guilt proneness represent one standard deviation above and below the mean. Partner expertise was experimentally manipulated.

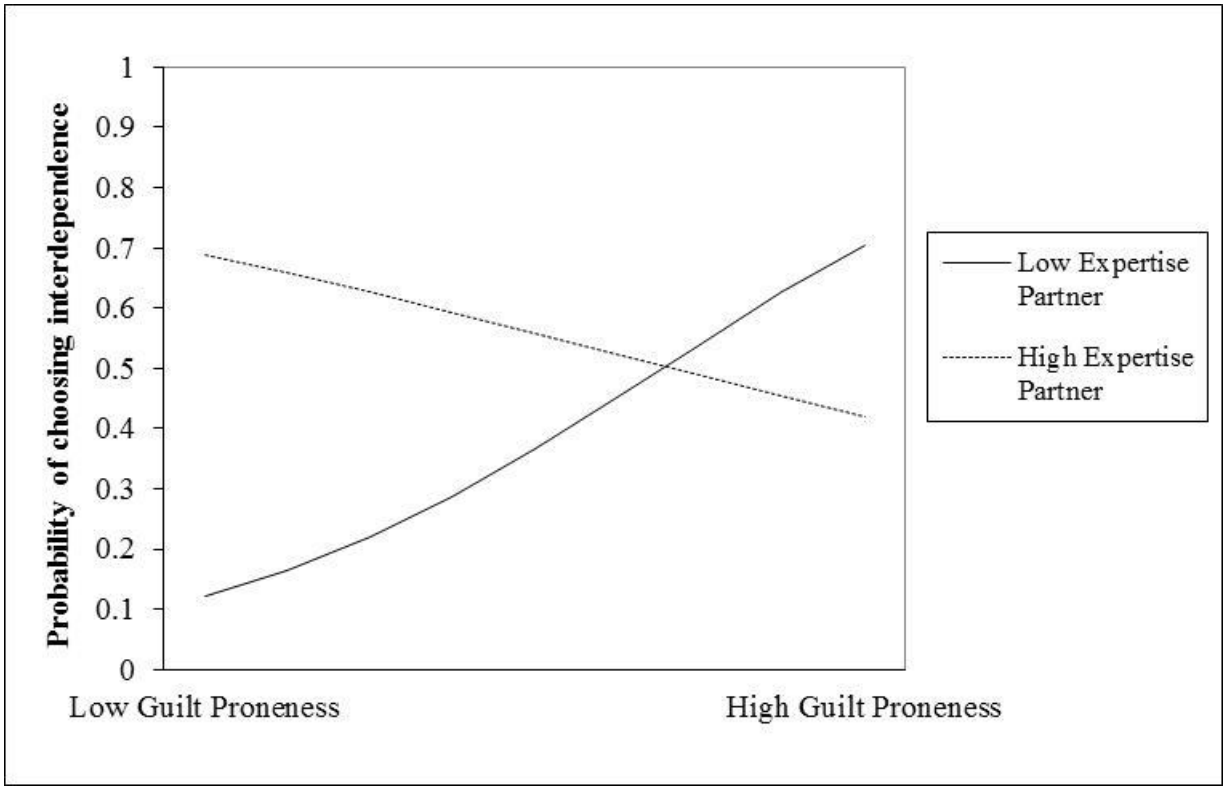


Figure 4. Study 4 (*N* = 178). The interactive effect of Guilt Proneness X Payment Structure on the choice to have one's financial outcomes determined by joint performance (interdependence) versus individual performance (alone). High and low values of guilt proneness represent one standard deviation above and below the mean. Payment structure was experimentally manipulated.

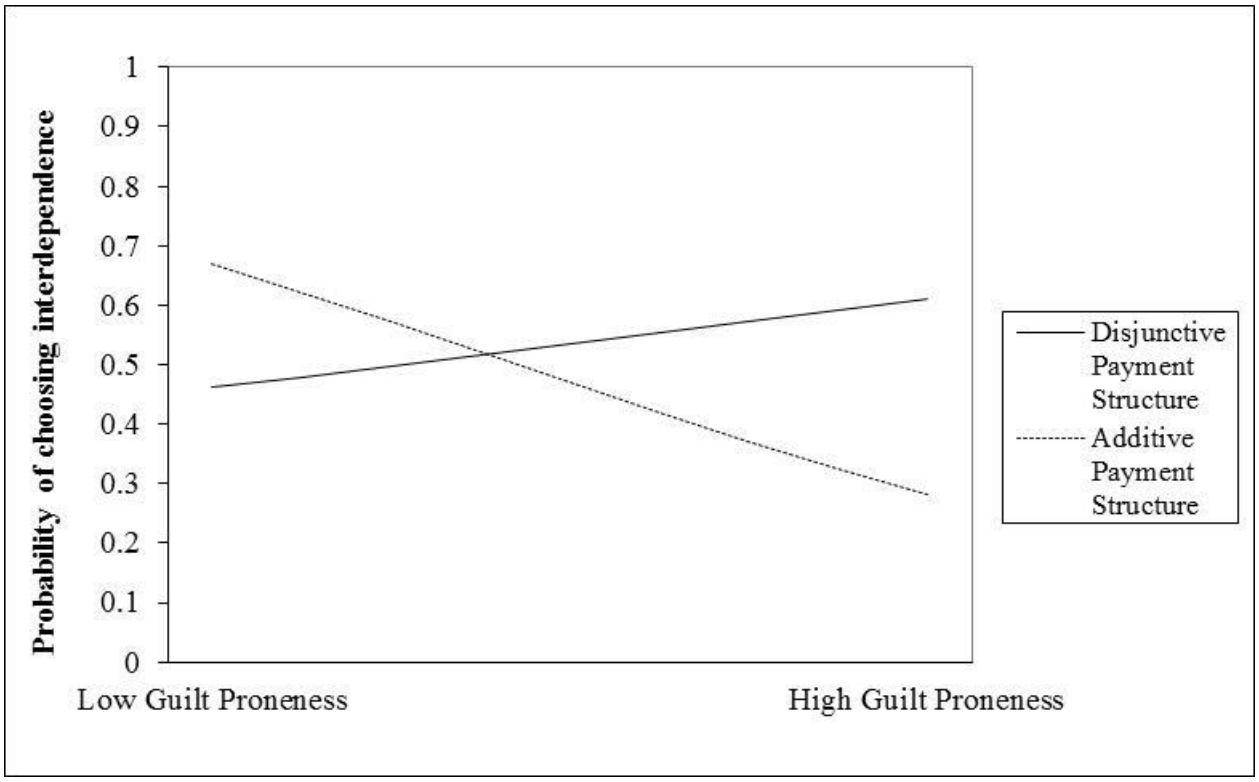
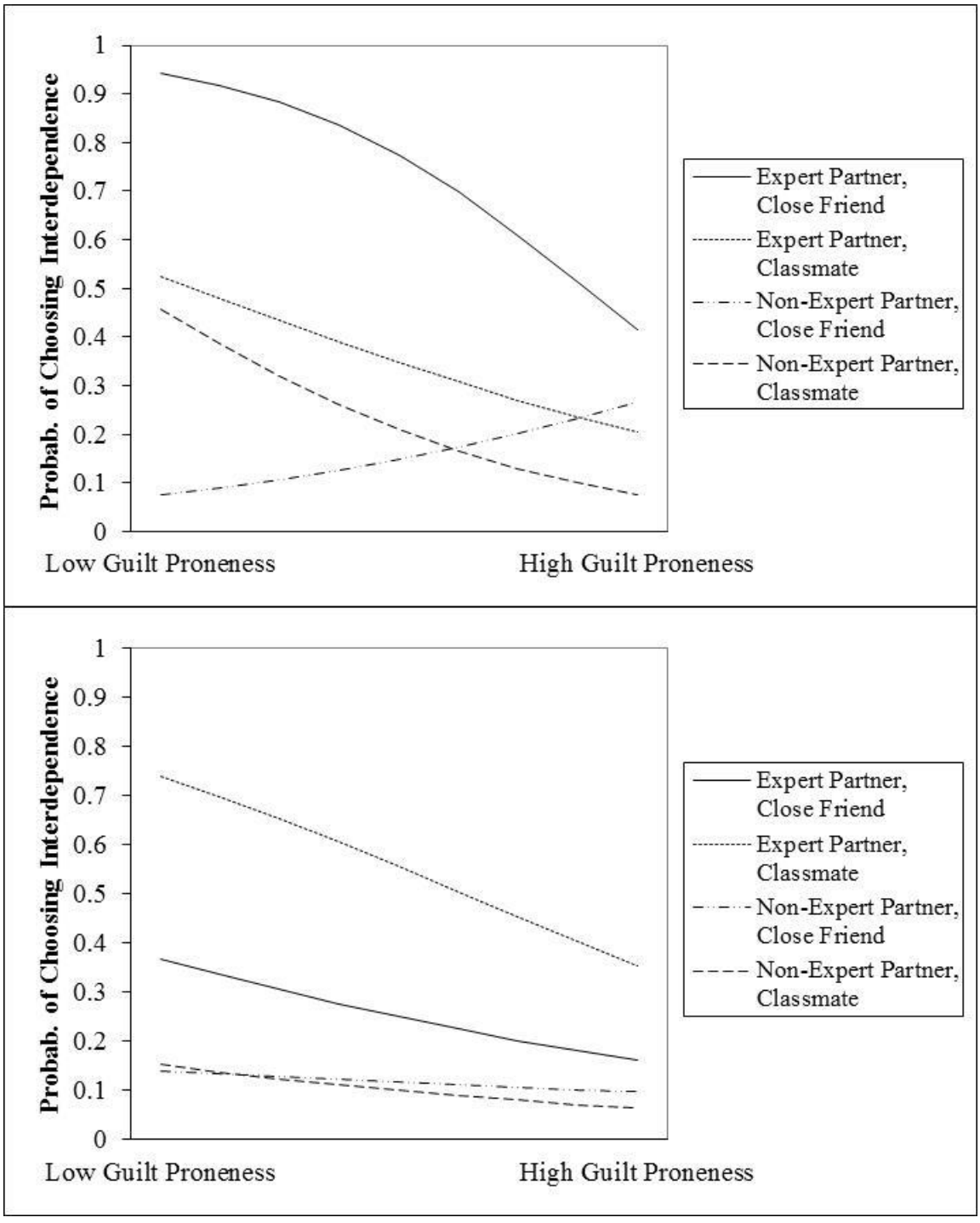


Figure 5. Study 5 (N = 208). Logistic regressions of the choice to have one's grades determined by joint performance with expert or non-expert partner (interdependence) versus, in the top panel, individual performance alone, and versus, in the bottom panel, performance with a partner possessing similar expertise as the self.



Footnotes

[1] Because choosing to be interdependent with a more competent potential partner and choosing not to be interdependent with a less competent potential partner may create equally negative economic consequences for the potential partner, one could argue that highly guilt-prone people should also be more willing to forgo independence in order to help less competent individuals (i.e., become interdependent with people less competent themselves). However, there are numerous reasons to believe that guilt proneness would be less likely to influence people's willingness to choose to be interdependent with a relatively less competent partner than it would be to influence people's willingness to choose to be interdependent with a partner more competent than the self. In particular, equity theory would suggest that people would see highly competent others as more deserving than incompetent others of desirable outcomes (Adams, 1965). Moreover, the decision not to become interdependent with someone less competent is an act of omission, whereas the decision to become interdependent with someone more competent is an act of commission. This distinction is important because people demonstrate an omission bias, in that they find harms caused by omission to be less concerning than identical harms caused by commission (Ritov & Baron, 1999; Spranca, Minsk, & Baron, 1991).

[2] Additional measures appeared at the end of all the studies for exploratory purposes, but we do not report them here. Information about these measures is available from the authors.

[3] We also ran regressions excluding age and gender. The Guilt Proneness X Self-Efficacy interaction predicted choice ($p = .054$). We also re-ran the regressions in all other studies excluding age and gender. All effects that were significant controlling for age and gender continued to be significant when excluding these variables.

[4] We note that the disjunction payment structure condition is not fully disjunctive in that if the participants outperformed their counterpart they would earn $0.40 for their hearts and $0.30 for their counterparts' hearts. However, this payment structure prevents a poor performance by the focal participant from reducing the amount of money that his/her counterpart would earn. Thus, the participant could not let the counterpart down, as the participant could in the additive payment structure condition. We chose to structure the payments this way because pre-testing revealed that there was no variation in choices if participants were simply paid $0.60 per heart of the highest performing person in the dyad.

[5] The guilt proneness items collected during the prescreening followed more than 100 items from other surveys. We suspect that the two participants with guilt proneness scores more than 2.5 standard deviations below the mean suffered response fatigue. Consistent choice of the same number on the scale by one of the participants and the limited amount of time these participants spent on the prescreening measure support this interpretation. A total of 175 of the 176 other participants had standardized guilt scores that fell within the range of -1.88 to 1.55. Thus, the values of -3.01 and -2.52 standard deviations are clear outliers.