

FORGOING PROACTIVE SELF-CONTROL:
INACTIONS AND SELF-HANDICAPPING

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Self-handicapping is the process of preemptively creating an excuse to protect oneself from potential failure. Current conceptualizations of handicapping involve an action: individuals can claim a debilitating circumstance will affect their performance or engage in self-sabotaging behaviors that hurt performance. I present three studies examining whether individuals can also self-handicap by engaging in inactions. Although chronic self-handicappers are likely to engage in actions that hurt performance, I also propose they are less likely to engage in actions that help performance. Findings provided limited support for the predictions and imply that handicappers prefer unambiguous actions that can be clearly tied to future failure.

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Forgoing Proactive Self-Control: Inactions and Self-Handicapping

From losing weight, to staying on budget, all individuals have goals they strive to achieve. Despite the importance of these goals, individuals often fail to achieve them by sacrificing long-term goal attainment for immediate gratification or satiation. These puzzling failures have captured the interest of social psychologists for nearly two decades, producing a new area of research on self-control that examines the factors that cause such failures and exploring interventions to increase the likelihood of successes (e.g. Baumeister & Heatherton, 1996).

Self-Control

Self-control can be thought of as the various processes through which people prioritize distal, as opposed to proximal, goals and motives (Fujita, 2011). For example, when trying to achieve a good grade on an exam, an individual will need to study to achieve their long-term goal of getting a good grade in the course. To reach this goal, they will have to navigate through a sea of potential distractions like Netflix, social media, and roommates. Although these distractions provide a proximal rewarding experience, those with successful self-control will be able to use one of several strategies in order to prioritize studying and achieve their distal goal of getting a good grade.

While there are many ways to achieve distal goals, the vast majority of research to date has focused only on one type of self-control process: reactive self-control. Reactive self-control is a process in which individuals inhibit impulses after temptations are encountered (e.g. Mischel, Shoda, & Rodriguez, 1989; Baumeister, Bratslavsky, Muraven, & Tice, 1998; Fujita, 2008). For example, a dieter would need to restrain their automatic impulse to eat a delicious donut when they come across an open box in the breakroom. To successfully prioritize their

distal goal (e.g. weight loss), an individual must have high levels of motivation and attentional resources (Baumeister, Heatherton, & Tice, 1994; Inzlicht & Schmeichel, 2012). Engaging in an act of reactive self-control consumes these psychological resources, making future acts more difficult (e.g. Baumeister et al., 1998).

Although this effortful impulse control is undoubtedly an important way to engage in self-control, it is just one process through which self-control can be achieved. More recently, researchers have examined proactive self-control processes in which individuals can instead remove temptations from environments (Fujita & Roberts, 2010; Fujita, 2011; Delose, vanDellen, & Hoyle, 2015; vanDellen, Shah, Leander, Delose, & Bornstein, 2015). For example, a dieter might avoid going to the breakroom to eat lunch where unhealthy snacks are and instead choose to eat outside or at his desk. The types of proactive strategies individuals use vary widely from self-imposed punishment on impulsive actions (e.g. Thaler & Shefrin, 1981; Fujita & Roberts, 2010), precommitment to deadlines (Ariely & Wertenbroch, 2002), planning ahead for specific situations (Gollwitzer, 1993), prioritizing difficult tasks (Delose et al., 2015), and surrounding oneself with people who aid goal pursuit (vanDellen et al., 2015).

By using these proactive processes, individuals can circumvent the need to use reactive self-control. Due to the high amount of in-the-moment self-control failure of reactive processes, those with good self-control more often use proactive processes (e.g. Trope & Fishbach, 2000; Fishbach et al., 2003) and may resort to reactive self-control only when other means have failed (Fujita, 2011).

Strategicness of Proactive Self-Control

Despite being a more successful means to achieve distal goals, proactive processes are utilized strategically. In a recent study, Delose and colleagues (2015) found that good self-

regulators only engage in proactive exercise strategies when health goals are important, and exercising is perceived as difficult. In these situations where participants feared failing at their important health goal, good self-regulators were motivated to exercise earlier in the day before depleted resources or unexpected challenges got in the way. When participants were unconcerned with failure, no proactive self-control was used. Similarly, vanDellen and colleagues (2015) found that good self-regulators sought out study partners that would help them do well in a statistics course only when they were concerned about failing the course. When concern was low, good self-regulators were just as likely to choose a “good” partner as a “bad” partner.

Thus, proactive self-control processes seem to be strategically used only when individuals fear a potential self-control failure. When this fear drops, individuals might devote their attentional resources elsewhere to ensure that other important goals can be pursued and obtained (e.g. Louro, Pieter, Zeelenberg, 2007; Fishbach & Ferguson, 2007). However, in these types of situations where fear of failure is high, a new type of goal might also become active.

Self-Protection

One of our most basic motives as individuals is to see ourselves as good, competent, and decent people (e.g. Aronson, 1998; Baumeister, 1993). When failure looms, that image of ourselves as highly competent is threatened and we move to protect ourselves (Covington, 1984).

When an individual fears that he or she might fail at an important upcoming task, there are many strategies the individual could use to protect his or her self-concept. From engaging in massive amounts of preparation (Oleson, Poehlmann, Yost, Lynch, & Arkin, 2000), to defensive pessimism (Norem & Cantor, 1986), to self-affirmation (Steele & Liu, 1983), individuals can choose from a host of options in the self-protective toolbox (e.g. Tesser, 2001).

One of these options, called self-handicapping, involves creating a preemptory excuse for failure so as to shift the blame away from the self and onto an external source (Arkin & Baumgardner, 1985). By doing this, the handicapper is able to protect their own and others' beliefs about their competency (Harris & Snyder, 1986). The excuses self-handicappers use vary from claims of depilating circumstances such as testing anxiety (Smith, Snyder, & Handelsman, 1982) to engaging in self-sabotaging behaviors such as alcohol use (Berglas & Jones, 1978) and effort withdrawal (Hirt, Deppe, & Gordon, 1991). Despite the benefits of self-protection these actions enable, self-handicapping comes at a high cost. Research finds increased failure and substance abuse, decreased intrinsic motivation, and negative interpersonal consequences all result from chronic use of this strategy (Eyink, Hirt, Crawford, Karpen, & Heltzel, under review; Hirt, McCrea, & Boris, 2003; Zuckerman, Kieffer, & Knee, 1988; Zuckerman & Tsai, 2005).

Because self-handicapping often involves failing to achieve distal goals like good grades, some researchers have characterized self-handicapping as a lack of self-control (Baumeister, 1998; Martin et al., 2003; Ferrari & Emmons, 1995). Interestingly, in a previous study in our lab, we ourselves characterized a handicapping target by saying "He lacks discipline and self-control and just wanted to see the movie instead of studying" (Hirt et al., 2003). Previous researchers have even found strong correlations between trait self-handicapping and trait self-control (Uysal & Knee, 2012; Gitter, 2008).

However, I urge readers to take a more nuanced approach and instead consider self-handicappers as people engaged in multiple goal pursuit. Individuals have multiple goals active at any given time, and often must switch their attention and motivation from goal to goal depending on situational and personal factors (Fishbach & Ferguson, 2007). Self-handicappers, instead of lacking the self-control necessary to engage in the successful prioritization of distal

goals, might similarly be prioritizing a new goal of self-protection over those distal goals. For example, a chronic handicapper's need to protect his sense of self-worth and belief in his own math competence might be more important than actually getting a good grade on the math exam. Thus, he might choose to handicap by withdrawing effort instead of engaging self-control and studying the night before the math test. In the likely case that he does poorly, this would not reflect a self-regulatory failure, but instead a prioritization of his self-protection goal.

Strategicness of Self-Handicapping

What could lead individuals to prioritize this type of self-protection? Aspects of the situation, such as the gender composition of the audience (Hirt et al., 2003), and features of the individual, such as covert self-esteem (Harris, Snyder, Higgins, & Schrag, 1986), can all increase the likelihood of self-handicapping. Most importantly though, a self-handicapper must experience a high amount of fear of failure, which has been found to be a necessary precursor to handicapping (Hirt, McCrea, & Kimble, 2000).

Researchers often manipulate fear of failure to increase the likelihood of self-handicapping. One way they do this is through the use of non-contingent success feedback (e.g. Jones & Berglas, 1978). In these paradigms, handicappers are told they performed extremely well on a task and that this exemplary performance sets high performance expectations for a future task. This increases handicappers' fear of failure, and thus increases one's likelihood to self-handicap. Similarly, an ongoing line of work examines how control beliefs affect fear of failure and subsequent handicapping behaviors (Eyink & Hirt, in progress). We hypothesize that when an individual believes nothing he does will affect the outcome of a performance, he is likely to feel high fear of failure, and subsequently might turn to self-handicapping despite its costs. For example, if a student believes studying, reading the textbook, and talking to the

professor won't help her grade on an upcoming exam, she would be highly anxious about failing the exam, and therefore engage in preemptive excuse making in order to protect herself from that future failure.

Fear of failure, then, seems to motivate both the use of self-handicapping and proactive self-control. However, even when a handicapper has a distal goal like good grades, in situations with high fear of failure, self-protection takes priority over the pursuit of those distal goals and thus necessitates the use of handicapping over the potential use of proactive strategies.

Self-Protection Through Forgoing Self-Control

In such situations with high fear of failure where self-protection wins out, chronic self-handicappers have a plethora of behaviors and claims to choose from in order to externalize a potential failure. As stated earlier, the literature often makes a distinction in handicaps that are claimed versus behavioral (Hirt et al., 1991). However, few mentions are made between handicaps involving actions versus inactions. Specifically, most self-handicaps involve *doing* a *negative* behavior or *making* a *negative* claim. For example, individuals could take a drug (Berglas & Jones, 1978), listen to distracting music (Rhodewalt, Morf, Hazlett, & Fairfield, 1991), or claim to have test anxiety (Smith, Snyder, & Handelsman, 1982), or a negative mood (Baumgardner, Lake, & Arkin, 1985). Handicappers also have another option, however: inactions. These types of handicaps involve *not doing* a *positive* behavior or making a claim of *abstaining* from something *positive*. For example, individuals could withdraw study effort before a test (Hirt et al., 1991) or claim a lack of sleep.

In the current work, I propose a new type of handicapping through inaction that has not been examined in the literature to date. Specifically, I examine if chronic self-handicappers strategically avoid proactive acts of self-control in order to shift attributions of potential failure

away from the self. Similar to active behavioral self-handicaps like drinking alcohol or effort withdrawal (Berglas & Jones, 1978; Hirt et al., 1991), avoiding proactive self-control can provide a plausible explanation for future failure that is external to the individual. For example, one often-used proactive strategy for students is to turn off Wi-Fi on their laptops while studying for an exam. This proactive behavior removes the temptation of social media and other internet sites, thus bypassing the need for the student to engage in reactive self-control and increasing the likelihood of successful studying. However, leaving the Wi-Fi on could provide a ready-made excuse for a future poor performance. Specifically, if failure occurs, the student could blame the distracting internet for the failure. Thus, forgoing proactive strategies could externalize failure in the same way traditional behavioral self-handicaps do.

The Current Studies

In this dissertation, I examine if chronic self-handicappers will both engage in actions and inactions to externalize future failure. Specifically, I predict that when individuals are in a situation where fear of failure is high, chronic handicappers will forgo proactive self-control as a self-handicapping strategy. This will happen regardless of the handicapper's pursuit of other distal goals, because in situations of high fear of failure, self-protection takes precedence over achievement goals. Other individuals, though, won't be as motivated by self-protection in these situations. For these non-self-handicappers, I predict that their distal achievement goals will take precedence, and they will instead engage in more proactive self-control when those individuals are good self-regulators who fear self-control failure.

Overview of Experiments

I designed three studies to examine these basic predictions. In Study 1, online participants completed measures of trait self-handicapping and self-control. They then imagined studying for

an important upcoming exam and rated how likely they were to engage in good habits (including proactive self-control strategies), bad habits, and ambiguous habits that are viewed as simultaneously helpful and distracting. My main prediction was that HSH would engage in less good habits, regardless of their level of self-control ability. LSH, who are not chronically motivated by self-protection, would instead act based on their trait self-control such that LSH with HSC would be more likely to engage in good habits, and LSH with LSC would be less likely to engage in good habits.

In Study 2, I investigated if these effects only hold when participants experienced high fear about potential failure. As discussed above, past work finds that traditional, actional self-handicaps are motivated by a fear of failure (e.g. Hirt et al. 2000); therefore, demonstrating inactions are motivated by the same mechanism of fear will be important. To demonstrate this motivation, I had online participants' rate their trait handicapping and self-control abilities along with a measure of fear over failing to meet health goals. Participants then planned a fictitious day around a list of provided activities, including exercising. One proactive strategy participants could use to ensure they meet their exercise goal is to exercise early in the day before other unexpected commitments and challenges get in the way of the exercising. Thus, I predicted that HSH would forgo the proactive strategy of exercising early in the day; however, this would only occur when they were concerned they could not achieve their health goals.

Finally, in Study 3, I examined if the forgoing of proactive self-control is strategic. Past research (Eyink et al., 2017) finds that handicappers need cognitive resources to work through the attributional consequences of their handicap. This suggests that handicappers are strategically thinking through when to use handicaps and if they will appropriately excuse their poor performance. To determine if handicappers use inactions in same manner as actions, I

investigated if individuals only forgo proactive self-control when cognitive resources are available. To do this, participants' trait handicapping was assessed. Participants' self-control resources were then depleted or not. Next, I manipulated the viability of a handicap by telling participants their choice of study partner did or did not affect performance. Participants then picked a bad or good study partner for an upcoming test. One proactive strategy participants could use to ensure they meet their studying goal is to surround themselves with good studying partners. Thus, I predicted HSH would forgo the proactive strategy of picking a good partner; however, this would only occur when the handicap was viable (i.e. when told partner choice affects performance), and when they had the resources necessary to work through the attributional benefits of the handicap (i.e. when they were not depleted).

Study 1

To first examine my basic hypothesis that individuals can handicap through inactions, I examined an imagined situation where fear of failure is high. Specifically, individuals were asked to imagine an important exam was coming up and rate how likely they were to engage in various behaviors piloted to be unambiguously helpful (i.e. "Good habits"; these included proactive acts of self-control), unambiguously distracting ("Bad habits"), or both helpful and distracting (i.e. "Ambiguous").

I hypothesized that self-handicapping would predict participants' likelihood to engage in bad habits. Although these particular harmful behaviors have not been studied as a behavioral self-handicap before, their negative impact on performance parallels that of established self-handicaps such as effort withdrawal (Hirt et al. 1991), distracting music (Rhodewalt & Davison, 1984), and drinking alcohol (Kolditz & Arkin, 1982). Therefore, HSH should engage in more bad habits than LSH. Similarly, HSH should also engage in more ambiguous habits as they also

provide a ready-made excuse for poor performance. Chronic handycappers might be particularly drawn to these types of behaviors as they provide more attributional ambiguity to the handycapper. Specifically, since these ambiguous items (e.g. studying in a communal library area) have both positive and negative components, they might enable a handycapper to sabotage themselves (e.g. studying in a loud environment with lots of people is distracting) while simultaneously providing a justification for engaging in the behavior to protect themselves from interpersonal costs (e.g. I went there to get away from my roommates). In contrast to bad and ambiguous habits, I hypothesized HSH would engage in less good habits than LSH. This type of self-handicap through inaction would still serve to create an excuse for poor performance, just by refraining from helpful behaviors instead of engaging in risky ones.

I also hypothesized effects of self-control on predicted behaviors. Because self-control involves both acting in desired ways and not acting in undesired ways (de Ridder, de Boer, Lugtig, Bakker, & van Hooft, 2011; de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012), I predicted individuals with HSC would be less likely to engage in bad habits and more likely to engage in good habits than those with LSC. Because ambiguous habits are, by definition, both good and bad – the effect of self-control on these actions is less clear and was left up to empirical analysis.

Finally, I predicted an interaction between self-handicapping and self-control such that self-protection will supersede self-regulatory concerns in this situation designed to elicit failure concern. Thus HSH, regardless of self-control, should be more likely to engage in bad and ambiguous habits, and less likely to engage in good habits than LSH. For those without chronic handicapping tendencies, their self-control habits would instead predict behavior such that LSH

with HSC will be unlikely to engage in bad habits but likely to engage in good habits, while LSH with LSC will be unlikely to perform good habits and likely to perform bad habits.

Method

Participants

111 introductory psychology students at Indiana University – Bloomington participated in this study to fulfill a course requirement. The sample was young ($M = 19.48$), female ($N=77$), and White ($N = 64$).

To determine sample size, I examined extant literature for general rules. If there are five or less predictors, Harris (1985) suggests a sample size of $N = 50 + P$, where P is the number of predictors. Green (1991) suggests a minimum sample size of $N = 50 + 8P$. VanVoorhis and Morgan (2007) suggest a sample of $N= 30P$. In this study, I had three predictors, thus sample size suggestions range from 53 to 90. To ensure adequate power, I planned to collect data from 100 participants. 111 unique participants enrolled and completed the main dependent variables of the study, and they constitute the final sample.

Procedure and Materials

Participants enrolled in an online study. After providing consent, participants answered demographic questions including age, gender, race, socioeconomic status, political ideology, GPA, and major. Next participants completed measures of trait self-handicapping (Jones & Rhodewalt, 1982) and self-regulatory ability (Tangney, Baumeister, & Boone, 2004).

Participants then read:

“Imagine you have a final exam in a course that is very important to you and your future career. Your teacher tells you that students who do well on this final tend to go on to get better jobs and earn higher salaries after graduation. You have received good grades in

the class thus far, but you aren't exactly sure how you managed to get such high scores. Even though your teacher mentioned during office hours that she thinks you will do great on the final, you are concerned that you won't be able to replicate your high grades and might fail the exam. It's the weekend before the exam, and you're getting ready to study."

This prompt was designed to elicit high levels of uncertainty and fear of failure amongst participants. Similar to providing participants non-contingent success feedback (e.g. Hirt et al., 2000), this prompt should increase the likelihood of self-handicapping.

Participants then rated how likely they were to engage in a set of study habits. Participants answered questions about the location of their studying (e.g. studying at a coffee house or library), their preferred partners for studying (e.g. alone or with friends), what items they bring with them to study (e.g. cellphone, lecture notes), what activities they engage in while studying (e.g. checking email, making flashcards), and any proactive strategies they use to help keep them on task (e.g. turning off Wi-Fi capability).

Behaviors were generated from studies examining the harmful effect of electronic devices, study partners, and distracting environments on performance (Calderwood, Ackermen, & Conklin, 2014; Calderwood, Green, Joy-Gaba, & Moloney, 2016; David, Kim, Brickman, Ran, & Curtis, 2015; Reaves, Graham, Grahn, Rabannifard, & Duarte, 2015; Rodrigues & Pandeirada, 2015; Ward, Duke, Gneezy, & Bos, 2017; Xu, Fan, & Du, 2016; Karpicke, Butler, & Roediger, 2009) as well as an informal survey of current undergraduate and graduate students. Pilot tests assessed whether students saw these behaviors as helpful or harmful to studying, and three composite measures were created (see Appendix 1 for full measures and details of the pilot testing). First was a measure of "good habits" that are unambiguously helpful to students'

studying (e.g. studying in a private area at the library, bringing my notes and textbook to a study session). These items were all rated as helpful, and not distracting (helpful ratings $\alpha=.788$, distracting ratings $\alpha=.883$). Second was a measure of “bad habits” that are unambiguously distracting to a students’ studying (e.g. watching a movie while studying, bringing my cellphone to a study session). These items were all rated as distracting, and not helpful (helpful ratings $\alpha=.687$, distracting ratings $\alpha=.699$). Finally, I created a measure of “ambiguous habits” that are both helpful and distracting to studying goals. For example, studying in a communal area at the library is helpful, since it is away from the distractions of roommates; however, it also provides the distraction of people watching and a louder environment. Ambiguous items were all rated as both distracting and helpful (helpful ratings $\alpha=.708$, distracting ratings $\alpha=.682$).

After answering these questions, participants were debriefed and directed to the study website to receive credit.

Results

Descriptive Analyses

As in previous studies (Uysal & Knee, 2012; Gitter, 2008), a strong negative correlation between trait self-handicapping and self-regulatory ability was found ($r = -.639$, $p < .001$). A scatterplot of the relationship between these variables can be seen in Figure 1.

Main Analyses

I conducted linear regression analyses with trait self-handicapping, self-regulatory ability, and their interaction as centered predictors of participants’ scores on the composite measures of good, bad, and ambiguous habits. Main effects were assessed in an initial block, and interactions were assessed in a secondary block.

“Bad Habits” - Actions that unambiguously harm performance

The primary block assessing main effects on bad habits was significant, $F(2, 104) = 9.381, p < .001$. The main effects explained 15% of the variance in the use of bad habits ($R^2 = .153$) and this change in R^2 was significant ($F(2, 104) = 9.381, p < .001$). I found a main effect of trait self-handicapping ($B = .773, t(104) = 2.913, p = .004$) such that HSH are more likely to engage in bad habits than LSH. Contrary to my hypotheses, I did not find a main effect of self-control ($B = -.133, t(104) = -.600, p = .550$).

The secondary block assessing interactions was also significant, $F(3, 103) = 8.697, p < .001$. Introducing these interactions explained an additional 5% of the variance in the use of bad habits ($R^2 = .202$), and this change in R^2 was significant ($F(1, 103) = 6.362, p = .013$). The interaction between self-handicapping and self-regulation was significant ($B = -6.97, t(103) = -2.522, p = .013$, see Figure 2). To explore this interaction further, I conducted a simple slopes analysis in which the effect of self-control was examined at high (+1 SD) and low (-1SD) levels of self-handicapping. LSH, regardless of their amount of self-control ability, were unlikely to engage in bad habits ($B = .103, t(103) = .437, p = .663$). HSH's actions were dictated by their level of self-control ($B = -.607, t(103) = -2.119, p = .036$): HSH with low self-control engaged in more bad habits than HSH with high self-control.

“Good habits” - Actions that unambiguously help performance

The primary block assessing main effects on good habits was not significant, $F(2, 104) = .244, p = .784$. The main effects explained 0.5% of the variance in the use of bad habits ($R^2 = .005$) and this change in R^2 was not significant ($F(2, 104) = .244, p < .784$). Contrary to hypotheses, I found no significant main effect of self-handicapping ($B = .049, t(104) = .237, p = .813$) or self-control ($B = .113, t(104) = .657, p = .513$). The secondary block assessing interactions was also not significant, $F(3, 103) = .243, p = .866$. Introducing these interactions

explained an additional 0.2% of the variance in the use of bad habits ($R^2 = .007$), and this change in R^2 was not significant ($F(1, 103) = .245, p = .622$). The interaction between self-handicapping and self-control was non-significant ($B = .109, t(103) = .495, p = .622$).

“Ambiguous habits” – Actions that both help and hurt performance

The primary block assessing main effects on ambiguous habits was significant, $F(2, 104) = 3.955, p = .022$. The main effects explained 7% of the variance in the use of bad habits ($R^2 = .071$) and this change in R^2 was significant ($F(2, 104) = 3.955, p = .022$). However, I found no significant main effect of self-handicapping ($B = .244, t(104) = 1.250, p = .214$) or self-control ($B = -.185, t(104) = -1.137, p = .258$). The secondary block assessing interactions was marginally significant, $F(3, 103) = 2.679, p = .051$. Introducing these interactions only explained an additional 0.2 % of the variance in the use of bad habits ($R^2 = .072$), and this change in R^2 was not significant ($F(1, 103) = .190, p = .664$). The interaction between self-handicapping and self-control was therefore unsurprisingly non-significant ($B = -.091, t(103) = -.436, p = .664$).

Exploratory Gender Analysis

Because past work often finds a gender difference such that men engage in actional behavioral handicaps while women do not (e.g. McCrea et al., 2008), I examined whether the effects above would differ by gender. I conducted additional linear regression analyses adding gender as a main effect to block 1, and its interaction terms to blocks 2 and 3.

Adding gender to the model for bad habits yielded no significant main effects or interactions with gender. Further all main effects and interactions described above remained significant with gender in the model.

Adding gender to the model for good habits yielded a significant main effect of gender ($B = .471$, $t(104) = 2.632$, $p = .010$) such that females engaged in more good habits than males. No other effects were found.

Finally, adding gender to the model for ambiguous habits yielded a marginally significant main effect of gender ($B = .319$, $t(104) = 1.853$, $p = .067$) such that females engaged in marginally more ambiguous habits than males. No other effects were found.

Discussion

In Study 1, I primarily replicated basic self-handicapping findings that those high in trait self-handicapping (HSH) were more likely to engage in negative actions, specifically to use bad study habits, than those low in self-handicapping (LSH). Although these particular behaviors have not been examined in the literature before, this result points to the ubiquity of handicapping amongst student populations and helps to provide converging evidence that these “bad habits” are indeed distracting to students.

However, this tendency to engage in bad study habits was moderated by self-control. Contrary to my initial predictions, only chronic handicappers with poor self-control engaged in these bad habits, while chronic handicappers with good self-control engaged in fewer of them. Thus, it seems that self-regulatory tendencies overwhelmed any motivation to engage in self-protection.

This might have occurred simply because there was not enough variance amongst the variables in the data set. In looking at Figure 1 of the scatter plot of the relationship between self-handicapping and self-control, it seems that most individuals were either high handicappers with low-self-control, or low handicappers with high self-control with few individuals falling into the other possible quadrants. Due to this lack of variance, it's very unlikely I'd be able to find

chronic handicappers with good self-control in the sample doing anything, much less engaging in handicapping through inactions! This lack of variance will be addressed in Study 3, where self-control is manipulated instead of measured.

However, we might also see self-control overwhelming self-protecting because individuals were not feeling enough fear of failure for self-protection to be prioritized over other important distal goals. Although piloted to ensure participants would be anxious, it is possible the imagined scenario did not engender enough concern amongst our sample. This pattern (or lack thereof) seems to point to a growing body of work that shows that hypothetical situations are not always the psychological equivalent of in-vivo experiences (e.g. Bostyn, Sevenhant, & Roets, 2018). Thus, in Study 3, we tested these same basic predictions with an in-lab paradigm to see if these results hold when the situation is more realistic, and perhaps more threatening. Further, the effect of failure concerns on the use of proactive self-control will be directly tested in Study 2; thus, I will return to this point later in the paper.

Perhaps most striking was the lack of any significant effects on good habits. The lack of any self-handicapping main effect or interaction on good habits provides initial evidence that the basic supposition of this paper is incorrect – perhaps individuals don't use inactions to excuse poor performance. However, there could be an issue with the way we measured good habits. When creating the good habits measure, I combined items that are traditionally helpful for studying (e.g. textbook, making study guides, studying in a private area) with proactive strategies for studying (e.g. turning off Wi-Fi, using the Pomodoro technique). Although participants rated both the more traditionally good items and the proactive items as helpful and not distracting, the amount they reported *using* the items differed. On average, pilot participants reported using the traditionally good items often ($M = 5.256$, 1-7 scale), while reporting infrequent use of the

proactive strategies ($M = 2.658$, 1-7 scale). So although these items are viewed the same in terms of helpfulness and distraction, they might not combine well into a single measure. To test this, I conducted additional exploratory analyses wherein I created two new composite measures: a proactive habits score (consisting of all proactive strategies), and a good habits score without proactive strategies included. I then reran the regressions to see if my results would differ based on a different conceptualization of “good habit”. Regardless of the way I measured “good habit” no significant effect or interaction was found. This provides additional, converging evidence that my basic hypothesis is incorrect. However, just like one study doesn’t “prove” an effect, one failed study does not “prove” an effect does not exist. Particularly because this measure was not previously validated, it will be important to examine this hypothesis using other paradigms and procedures. Thus, this same basic hypothesis will be tested in Studies 2 and 3.

Non-significant effects on ambiguous behaviors are perhaps more intriguing. As our past work indicates (Eyink et al., 2017), self-handicapping is a cognitively costly strategy because individuals must think through the attributional implications of their actions. Although ambiguous habits might afford an interpersonal savings by providing a reasonable justification for engaging in a less-than-ideal studying behavior, this lack of a main effect implies handicaps must be clearly and easily tied to failure. If the tie between engaging in the habit and failure isn’t clear, handicappers don’t seem to use it – and instead choose unambiguously distracting habits that clearly hurt their performance.

Finally, though, the lack of a self-control main effect on good habits flies directly in the face of past findings that high trait self-control predicts doing good, proactive behaviors (e.g. Ent, Baumeister, & Tice, 2015; de Ridder et al, 2012). Remember, though, that Delose et al. (2015) found that individuals only engage in proactive self-control when concern over failure is

high. Although I did not directly test participants' concerns over self-regulatory failure, the use of an imagined scenario and the lack of failure concerns seem to point to a similar lack of concern over self-control failure as well.

Study 2

Although Study 1 demonstrated that chronic handicappers engage in bad, risky behaviors, it failed to provide evidence that they also fail to engage in good, proactive behaviors. As discussed above, this could be due to a dearth of failure concerns amongst my participants. Because this fear is a necessary precursor for handicapping (Hirt et al. 2000), I attempted to create a threatening situation in Study 1 by describing the exam as important and meaningful to the student. It seems, however, this scenario did not successfully meet this goal. Thus, in Study 2, I directly measure and assess fear of failure and use it to predict the use of good, proactive behaviors in the domain of health by adapting a previously validated methodology (Delose et al., 2015).

Although much of the work in self-handicapping and self-regulation involve students, the implications of this research are applicable to any domain individuals' value successful goal pursuit in, including health. In the current study, I therefore not only hope to demonstrate my basic effect in a more generalizable domain but also further elucidate the motivation behind their actions. Specifically, I hope to demonstrate that chronic self-handicappers refrain from proactive self-control processes that would help them meet their health goals, but only when fear of failure is high.

In Study 2, online participants complete measures of trait self-handicapping, self-control, and concern with failing to meet health goals. Next, participants plan out their day – including when they will wake up and exercise. Our main dependent variable is how much time

participants wait to exercise after waking up. Previous work (Delose et al., 2015) finds that good self-regulators proactively exercise soon after waking in order to avoid any unexpected distractions and tiny emergencies that pop up during the day and derail exercising. Thus, similar to my predictions in Study 1, I expected a main effect of self-handicapping such that HSH would forgo proactive self-control by waiting to exercise until later in the day than LSH. I also expected a main effect of self-control ability such that successful self-regulators would plan to exercise earlier than unsuccessful self-regulators. Finally, I predicted a main effect of fear of failure such that participants who were more concerned with failure would plan to exercise earlier than those who were unconcerned.

I further hypothesized a qualification of these results by significant two-way interactions. I predicted a self-regulation by fear of failure interaction such that self-regulatory ability would only predict exercise time when fear of failure was high. Further, I expected a self-handicapping by self-regulation interaction. HSH, regardless of self-regulatory ability, would exercise later in the day. LSH's plans would be determined by self-control capability such that LSH who had high self-regulatory skills would exercise early in the day, while LSH who had low self-regulation would exercise late in the day. Finally, I expected a significant 3-way interaction such that HSH would only exercise late in the day when they felt a high amount of fear of failure; LSH with high self-regulatory skills would only exercise early in the day when they feared failing at their health goals.

Method

Participants

310 adults (N=223 female, N=243 White, $M_{age} = 47.74$) who enrolled in Qualtrics research panels participated in this study for \$5 compensation. Adults over the age of 18 living in

the United States and who spoke fluent English were eligible to participate. I chose to use an adult sample as previous work found that although appearance concerns are high in student samples (Crocker, Luhtanen, Cooper, & Bouvrette, 2003), concern over having a healthy diet and routine exercise are more prevalent among older adults (Neumark-Sztainer, Rock, Thornquist, Cheskin, Neuhouser, & Barnett, 2000).

To determine sample size, I again used recommendations from existing literature. If you have six or more predictors, Harris (1985) suggests a minimum sample size of $N = 10P$, where P is the number of predictors. Green (1991) suggests a sample size of $N = 50 + 8P$. VanVoorhis and Morgan (2007) suggest a sample of $N = 30P$. In this study, I have seven predictors, thus sample size suggestions range from 57 to 210. Although I had funding to obtain 200 participants, due to technical issues with Qualtrics panels, we received a final sample of 310 participants who met all requirements and correctly completed all our main dependent measures; these individuals constitute our final sample.

Procedure

Participants first answered demographic questions assessing age, gender, race, height, weight, socioeconomic status, and political ideology. Trait level self-handicapping (Jones & Rhodewalt, 1982) and self-regulatory ability (Tangney et al., 2004) were then measured. Finally, participants answered questions about their fears over failing to meet their health goals (adapted from Hirt et al., 2000) and commitment to and difficulty with health goals (adapted from Delose et al., 2015). For full adapted measures, please see Appendix 2.

Based on the procedure of Delose et al. (2015), participants saw an empty agenda sheet with one-hour timeslots running from 5am to 4am. Participants then planned when they would complete each of the following 1-hour activities: exercise, making an unpleasant phone call,

laundry, applying for a new job. Finally, participants indicated what time they would wake up and go to sleep, as well as any other activities they might do during the day (see Appendix 2 for the full agenda item). After completing the agenda, participants were probed for suspicion and were compensated through Qualtrics panels.

Results

Descriptive Analyses

As in Study 1, a strong negative correlation between trait self-handicapping and self-regulatory ability was found ($r = -.738, p < .001$). A scatterplot of the relationship between these variables can be seen in Figure 3.

Main Analyses

To account for variability in planned wakeup time and to control for the potential that successful self-regulators wake up earlier in the day (as recommended in Delose et al., 2015), I first subtracted the time participants planned to wake up from the time they plan to exercise. This deviation score served as my main dependent variable for this study. Next, I created a composite measure of health fear of failure by combining my measures of fear of failing to meet health goals and difficulty with maintaining health goals ($\alpha = .869$). Finally, I conducted linear regression analyses with trait self-handicapping, self-regulatory ability, health fear of failure, and their interactions as predictors of the deviation score, or the amount of hours between waking up and exercising. Main effects were assessed in an initial block, 2-way interactions were assessed in a secondary block, and 3-way interactions were assessed in a final block.

The primary block assessing main effects on exercise deviation times was significant, $F(3, 306) = 3.036, p = .029$. The main effects explained 3% of the variance in exercise times ($R^2 = .029$) and this change in R^2 was significant ($F(3, 306) = 3.036, p = .029$). Contrary to

hypotheses, I did not find a main effect of either self-control ($B = -.669, t(306) = -1.335, p = .183$) or self-handicapping ($B = -.552, t(306) = -.905, p = .336$). However, a significant effect of health fear of failure was found ($B = .361, t(306) = 1.971, p = .050$) such that individuals who were more concerned over failing to meet their health goals waited longer to exercise after waking up.

The secondary block assessing 2-way interactions was also significant, $F(6, 303) = 2.195, p = .043$. Introducing these interactions only explained an additional 1% of the variance in exercise time ($R^2 = .042$), and this change in R^2 was not significant ($F(3, 303) = 1.344, p = .260$). The interactions between self-handicapping and self-control ($B = .368, t(303) = .525, p = .600$) and self-handicapping and health fear of failure ($B = -.547, t(303) = -1.199, p = .232$) were both not significant. However, a significant interaction between self-control and health fear of failure was found ($B = -.646, t(303) = -1.977, p = .049$, see Figure 4). To explore this interaction further, I conducted a simple slopes analysis in which the effect of health fear of failure was examined at high (+1 SD) and low (-1SD) levels of self-control. Individuals with HSC, regardless of their health goal fears, exercised soon after waking up ($B = .164, t(303) = .700, p = .484$). Individuals with LSC are affected by their health fears of failure ($B = .433, t(303) = 2.033, p = .043$): those worried about meeting their health goals put off working out until later in the day than those who were not worried.

The final block assessing 3-way interactions was marginally significant, $F(7, 302) = 1.907, p = .068$. Introducing these interactions only explained an additional 0.1% of the variance in exercise times ($R^2 = .042$), and this change in R^2 was not significant ($F(1, 302) = .212, p = .645$). Unsurprisingly, the interaction between self-handicapping, self-control, and health fear of failure was not significant ($B = .132, t(302) = .461, p = .645$).

Exploratory Gender Analysis

As in Study 1, I also examined if gender would potentially moderate the effects described above. To do so, I conducted additional linear regressions, adding gender as a main effect in block 1 and to interaction terms in blocks 2, 3, and 4. Adding gender to the model yielded no significant main effects or interactions with gender. Further all main effects and interactions described above remained significant with gender in the model.

Exploratory Health Importance Analysis

Because past work finds that the importance of the distal goal is an important determinant in whether or not an individual will use a proactive self-control process, over and above the amount of fear of failure they feel (Delose et al., 2015), I also examined if health goal importance would moderate the effects described above.

Overall, I found a strong negative relationship between fear of failing at a health goal and the importance of the health goal ($r = -.550, p < .001$). When I added health importance in as a separate predictor to the linear regression analysis both in the main effects of block 1 and the interaction terms in blocks 2, 3, and 4, I found the new model yielded only a marginally significant 4-way interaction between trait self-handicapping, self-regulatory ability, fear of health goal failure, and health goal importance ($B = -.420, t(294) = -1.798, p = .073$). No other main effects or interactions were found and the overall model was non-significant, $R^2 = .061, F(15, 294) = 1.276, p = .216$.

Discussion

In Study 2, I primarily found that the amount of fear someone feels over failing a goal is an important determinant over whether they engage in the proactive strategy of exercising soon after waking. Specifically, those who were more concerned with failing put off exercising until

later in the day; or, in other words, the more concerned someone was with failing, the less likely they were to use proactive self-control. Thus, unlike in Study 1, we can see that in certain situations where self-protection concerns are elevated, an individual might respond by engaging in inactions or by forgoing proactive self-control. This result jives with past research on procrastination finding that fear of failure is a prime motivator of putting pressing activities off until tomorrow (Solomon and Rothblum, 1984).

Although this result seems promising inasmuch that self-protection is motivating inaction, I did not find that chronic self-handicappers were more likely to engage in this behavior than non-handicappers. Instead, much like in Study 1, self-control moderates the effect. Only those who are bad at self-control and felt fear over failing put off exercising until later in the day. This was not further moderated by trait self-handicapping. Again, this could be due to a strong correlation between self-control and self-handicapping, leading to a lack of variability amongst participants. However, taken together with Study 1, this lack of a handicapping effect provides mounting evidence that handicappers don't forgo proactive self-control in order to excuse a failure through inaction. Nevertheless, this basic hypothesis will be examined again in Study 3 using an in-person paradigm to create the best conditions under which an individual might experience the type of fear over failure they would experience in an in-vivo handicapping situation.

Interestingly, I also found that good self-regulators in our study tended to exercise soon after waking (i.e. they are more likely to engage in proactive self-control), regardless of how much fear over failure they felt. This result directly contradicts previous research by Delose et al. (2015) that found good self-regulators exercised earlier in the day, but only if they felt the need to engage that proactive strategy due to concerns over fear of failure. Perhaps this puzzling

contradiction occurred because of differences in Delose and colleagues' (2015) and the current study's choice in participants. In previous work, researchers used a convenience sample of college students; however, in the current study, I chose to use an adult population. As stated in the methods section, this choice was made so as to have a sample with a high overall concern with health in order to increase the chance we might see handicapping behavior. However, this choice might have had the unintentional side effect of restricting participants' schedules.

Today's students must balance many different courses, extracurricular activities, and social engagements (Hanson, Drumheller, Mallard, McKee, & Schlegel, 2010); however, these activities tend to be flexible. For example, although a student must attend class at a certain time every week, when she works on the assignments for that class is up to her discretion. If a college student was worried about failing a test, she would need to move around her daily activities to enable her to tackle studying before any unanticipated emails, party invitations, etc. appeared and distracted her from her goal. This is possible to do because her activities are movable and flexible. However, if that student was not worried about failing the test, she could study at whatever time is most convenient. Thus, in student samples, fear over failure will likely predict when good self-regulators engage in self-control.

Adults, on the other hand, might have less flexibility due to different types of responsibilities including full-time jobs and child care. For example, if a parent wakes up at 5am, they might only have 1 hour to themselves before they need to begin getting their children ready to go to school before they themselves go to work. School start time and work start time are both inflexible and non-movable. After work, they might need to prepare dinner, entertain children, and give baths, before having to head to bed themselves. Although these activities are somewhat flexible (e.g. eating dinner at 6 vs. 6:30), the order isn't changeable (e.g. you can't put the kids to

bed before making dinner). The structure of adults' days might therefore already reflect a type of proactive self-control where they know they only have small amounts of time to get things done. Thus, whether or not they feel fear that they might fail at their goal, adults could only work on a task during those small pockets of time. This supposition is descriptively confirmed through open-ended questions at the end of the experiment. We asked participants to explain in 1-2 sentences why they chose their exercise time. Many participants explained that this was the only time they had open during their day and they wanted to tackle their exercise goals before moving on to other responsibilities. For example, one participant explained she picked that time to exercise because "...my child would still be asleep, so I could get exercise in without any interruptions", while another participant explained "I like to get it done, showered, and move on with the rest of the day." Thus, due to the sample we used, there simply might not be the ability for as much flexibility and therefore evaluative concern may not exert as much of an effect on adults with fixed schedules.

Beyond sampling differences, there were limitations of the implementation of this study that lead me to be hesitant of drawing strong conclusions about its results. In hindsight, the use of an online agenda item was less than ideal. Due to programming limitations, we were unable to have participants select an item and drop one, and only one, item into each time slot. Instead participants had to select a time from a drop-down menu for each item. This led to much confusion amongst participants – and many participants had to be replaced through the Qualtrics panel for failing to follow instructions and only select one activity per one-hour time block. Further, several participants were replaced for selecting exercise times that occurred before waking up or after going to sleep. Descriptively, then, it seems that although the online item allowed us to collect data quickly, it led to confusion and subpar data. Thus, it is important to

again examine the basic suppositions of this paper using another paradigm, as described in Study 3.

Study 3

Studies 1 and 2 provide converging evidence that handicappers do not forgo proactive self-control in order to engage in self-protection. However, both of these studies attempted to demonstrate this effect using online samples and hypothetical situations. Past work (e.g. Bostyn, Sevenhant, & Roets, 2018) finds that imagined scenarios often differ from real experiences, thus I examined the basic predictions of this paper again using an in-lab procedure.

Further, in both Studies 1 & 2, I found strong correlations between trait level handicapping and trait self-control, perhaps leading to a lack of effects due to an absence of variance in the data. In this study, I artificially created variance by directly manipulating the ability to engage in self-control. This should create HSH who have the ability to engage in self-control and LSH who do not have the ability to engage in self-control, two quadrants of participants missing from past studies.

Additionally, in Study 2, I found initial evidence that some individuals forgo proactive self-control when motivated to do so through fear of failure. However, the motivation behind this abstinence is unclear. Putting off exercising when failure looms could be motivated by a willingness to externalize that failure as is the case with self-handicapping (e.g. Berglas & Jones, 1978); an individual could hope that by waiting to exercise until later in the day, other commitments and challenges are bound to get in the way, creating an external justification for failing to achieve their exercise goal. In contrast, putting off exercising could also be motivated by more simple hedonic concerns: an individual who fears failure might want to avoid the

negative experience of failure, and so put off the task until later, as is the case in procrastination (e.g. Ferarri et al. 1995).

Thus, in Study 3, I attempt to untangle the true motivational underpinning behind forgoing proactive self-control. To do so, I manipulate the presence of a viable handicap in the research paradigm. Specifically, all participants are told they will be working with a partner on an important task. Half of participants are told that the partner they choose has a large effect on their score on this task, such that picking a good partner will positively affect their score and picking a bad partner will negatively affect their score. Thus, for these participants, a viable handicap is present – if motivated to do so, an individual could choose a bad partner in order to sabotage their likelihood of success on the task. The other half of participants are told partner choice has absolutely no effect on their task score. Thus, for these participants, a viable handicap is not present – no matter their motivation, they do not have a ready-made handicap present that can externalize and explain away their poor performance. Importantly, previous work (e.g. Hendrix & Hirt, 2009) finds that self-handicappers only engage in handicaps when they are viable, demonstrating the strategicness of the self-protective process. In Study 3, I hope to replicate this basic finding with inactions such that handicappers will only forgo proactive strategies when failure to use that strategy has implications for their performance (i.e. when partner choice matters).

Further, past research demonstrates that handicapping only occurs when individuals have the cognitive resources available to work through the attributional costs and benefits of the strategy (Eyink, Hirt, Hendrix, & Galante, 2017). Thus, if individuals are forgoing proactive self-control in order to externalize attributions for potential failure, they would also likely need to have cognitive resources available to work through the attributions of the strategy. Specifically,

in Study 3, I hope to demonstrate that forgoing proactive self-control only occurs when individuals are not cognitively depleted.

In Study 3, participants were brought into the lab to complete a cognitive abilities test with a purported partner. I first measured trait handicapping, before cognitively depleting participants (or not). Next, I manipulated the viability of a handicap by telling participants their choice of study partner did or did not affect performance. Finally, participants reported how concerned they felt before picking their partner for the test.

Similar to Studies 1 and 2, I predicted a main effect of trait self-handicapping on proactive self-control such that HSH would be less likely to pick a partner instrumental to success and more likely to pick a handicapper that threatens success. I also predicted main effects of depletion and handicap viability such that depleted participants and participants without a handicap present would be less likely to pick a “good” partner and more likely to pick a “bad” partner.

These main effects should be qualified by interactions. First, I predicted the effect of trait handicapping would be moderated by depletion such that HSH would only forgo an instrumental partner/pick a threatening partner when not under depletion. Further, this effect should be mediated by increased fear of failure. Hirt et al. (2000) finds that chronic self-handicappers feel increased fear of failure in performance situations that non-handicappers in the same situation simply don't experience. Thus, even being in the same threatening situation, only individuals who experience a high amount of fear should engage in handicapping behavior.

I also predicted trait handicapping and handicap viability would interact such that HSH would be unlikely to pick a “good” partner/likely to pick a “bad” partner when told partner choice matters. Finally, I predicted a three-way interaction such that HSH would be less likely to

choose a good partner/more likely to choose a bad partner only when the handicap is viable and when cognitive resources are available.

Method

Participants

247 introductory psychology students at Indiana University – Bloomington participated in this study to fulfill a course requirement. My sample was young ($M = 19.12$), predominantly female ($N = 178$), and majority White ($N=167$).

To determine sample size, I again used recommendations found in the literature. If you have six or more predictors, Harris (1985) suggests a minimum sample size of $N = 10P$, where P is the number of predictors. Green (1991) suggests a sample size of $N = 50 + 8P$. VanVoorhis and Morgan (2007) suggest a sample of $N= 30P$. In this study, I have seven predictors, thus sample size suggestions range from 57 to 210. To ensure adequate power, I planned to collect data from 250 participants.

261 participants enrolled and completed the study; however, 14 participants were excluded from analyses based on comments from research assistants who ran participants. Comments ranged from computer issues, to non-fluent English speakers, to participants who raised serious doubts about the cover story (i.e. they did not believe they would actually interact with anyone else). This left 247 participants in the final sample.

Procedure

Participants enrolled in a study purportedly about cognitive abilities of students. Participants believed they would complete some tasks alone, and other tasks with a partner. To ensure participants believed this cover story, we made sure that at least 3 participants were

enrolled for a session or that cubicle doors were shut upon entry to the lab and the incoming participants were told other students had already begun the experiment.

Upon arriving at the experimental session, participants first completed a packet of measures supposedly for a collaborator at the University of Toronto titled “Personality Styles Questionnaire”; however, this cover story was used simply to prevent participants from connecting the types of personality measures we assessed to the main measures later in the study. This packet contained measures of demographics including age, gender, race/ethnicity, college GPA, college major, political ideology, and socio-economic status. Finally, it contained a measure of trait self-handicapping (Jones & Rhodewalt, 1982).

After completing the packet, participants were then provided a new packet of papers, and told to follow instructions on the computer. Participants read they would complete a vowel recognition task. This task was adapted from Baumeister et al. (1998) and served as my manipulation of cognitive depletion. All participants first had up to 5 minutes to cross off every instance of the letter e from a scanned page of a statistic book. Half of participants received a second scanned page and again had up to 5 minutes to cross off all the e’s. Because this task was easy and required no suppression of their dominant, learned response from the first round of e-crossing, this condition was not cognitively depleting. The other half of participants instead received a second scanned page with bad contrast and resolution, making the text difficult to read without close attention. These participants had up to 5 minutes to cross off an e only if it was not adjacent to a vowel or one letter away from a vowel. Because this task was difficult and required suppression of their dominant, learned response from the first round of e-crossing, this condition was cognitively depleting. This depleted condition has been used across many studies to deplete cognitive resources and reduce the likelihood of future self-control success (e.g. Baumeister et

al., 1998). To ensure this manipulation worked, I included measures of motivation (adapted from Muraven & Slessareva, 2003; Muraven et al., 2006), perceived depletion, and mental fatigue (adapted from Clarkson, Hirt, Jia, & Alexander, 2010; Clarkson, Hirt, Chapman, & Jia, 2011; see Appendix 3 for full measures).

Participants then moved onto a new cognitive task assessing mental flexibility that they would work on in pairs. When describing the task, participants also read a bit about its history. Embedded in this history was my manipulation of handicap viability. All participants read:

Before you begin working on the mental flexibility task, we first wanted to tell you more about the history of the task.

For many years, psychologists have been interested in how working with a partner or group affects performance. On some tasks, working with a partner seems to enhance performance. On other tasks, working with a partner seems to undermine performance.

On still other tasks, individuals and groups seem to perform equally well.

Half of participants were assigned to have a viable handicap. As such, we augmented the viability of choosing a bad partner/not choosing a good partner as an excuse for poor performance. These participants read:

Recently, psychologists have begun to examine how different kinds of partners can differentially affect performance on specific cognitive tasks, including the mental flexibility task described earlier.

In 2016, Cornell University did a study on this flexibility task and found that its scores were **highly affected** by the type of partner. If participants were paired with a cognitively agile partner, performance increased dramatically from when the participant completed the flexibility task individually. However, if participants were paired with a

cognitively inept partner, performance decreased dramatically from when the participant completed the flexibility task individually. In other words, the type of partner had a large effect on participants' mental flexibility scores.

To further verify this finding, you will complete the mental flexibility task with a partner. Half of participants were assigned to have a non-viable handicap. As such, we removed the viability of choosing a bad partner/not choosing a good partner as an excuse for poor performance. They read:

Recently, psychologists have begun to examine how different kinds of partners can differentially affect performance on specific cognitive tasks, including the mental flexibility task described earlier.

In 2016, Cornell University did a study on this flexibility task and found that its scores were **not affected** by the type of partner. Regardless of whether participants were paired with a cognitively agile partner or a cognitively inept partner, performance did not change compared to when the participant completed the flexibility task individually. In other words, the type of partner had no effect on participants' mental flexibility scores.

To further verify this finding, you will complete the mental flexibility task with a partner. This type of manipulation of handicap viability has been successfully used in past handicapping studies (adapted from Hendrix & Hirt, 2009). Importantly, it allows researchers to demonstrate individuals only use a handicap that provides strategic self-protection and will refrain from handicaps that they or others don't believe cause failure.

After this manipulation, participants next completed a "Getting to Know You" sheet. As part of the cover story of the study, participants believed they would choose a partner for an upcoming task from a pool of two other participants. To facilitate their decision, all participants

first had to describe themselves. On a sheet with multiple blank lines, participants saw the following instructions: “Using the blanks provided, please write a description about yourself. That is, describe who you generally are as a person. You might wish to talk about such things as your year in school, major, extracurricular activities, and hobbies.” After completing this sheet, and while waiting for the other participants to finish their sheets, participants completed a measure of evaluative concern (adapted from Hirt et al., 2000; see Appendix 3).

Based on the procedures of vanDellen et al. (2015), participants finally received copies of handwritten “Getting to Know You” sheets from two other participants. All participants received the same sheets so as to provide one choice of partner that would help performance (good partner), and another choice of partner that would hurt their performance (bad partner).

The good partner description read:

I’m a freshman and I plan on majoring in biology, Much of my free time is monopolized by homework or studying, but that’s fine because I know that working hard now will be better for me in the long run. Outside of school, I enjoy playing volleyball with my friends or going for a bike ride or run. I like to volunteer around town when I can to try and make it a better place in general, but I don’t always have the time for it with school work and all.

The bad partner description read:

I’m a freshman and I mostly like hanging out with my friends. I go downtown or to parties every once in a while but I can still make time for school work. I’m thinking about majoring in business or journalism, but I’m not sure. I still have a lot of time to figure that out.

They then rated how positively, negatively, close to, and willing to work with both the good and bad partners they felt. Finally, they chose which person they would like to work with. After answering suspicion probes, participants were debriefed, thanked, and given credit for participating.

Results

Manipulation Checks

To assess whether the depletion measure worked, I first conducted independent samples t-tests to see if depleted and non-depleted conditions differed in their mental fatigue, perceived depletion, and motivation. Results indicate that the manipulation failed: depleted and non-depleted conditions did not differ in terms of task motivation ($t(245) = -.510, p = .610$), perceived depletion ($t(245) = .743, p = .458$), and mental fatigue ($t(245) = 1.188, p = .236$).

Creating Composite Measures

I next created a composite measure for the impressions of the good and bad partners. I first reverse scored the items about negativity, and averaged all items together (positivity, closeness, willingness to work with, reversed scored negativity). The composite impressions for both the good ($\alpha = .695$) and bad ($\alpha = .843$) partners had acceptable reliability.

Main Analyses

To analyze this data, I conducted linear regressions with trait self-handicapping, depletion manipulation, and handicap viability as predictors of impressions of the good and bad partners. Main effects were assessed in an initial block, 2-way interactions were assessed in a secondary block, and 3-way interactions were assessed in a final block.

Bad Partner Evaluations

The primary block assessing main effects on evaluations of the bad partner was significant, $F(3, 243) = 5.118, p = .002$. The main effects explained 6% of the variance in impressions ($R^2 = .059$) and this change in R^2 was significant ($F(3, 243) = 5.118, p = .002$). I found a significant main effect of trait self-handicapping ($B = .500, t(243) = 3.706, p < .001$) such that HSH had more positive impressions of the bad partner than LSH. Contrary to hypotheses, no other main effects were significant. Therefore the failed depletion manipulation ($B = -.174, t(243) = -1.153, p = .250$) and the handicap viability manipulation ($B = .061, t(243) = .407, p = .685$) were both non-significant.

The secondary block assessing two way interactions was also significant, $F(6, 240) = 2.611, p = .018$; however, introducing these interactions only explained an additional 0.2% of the variance in impressions ($R^2 = .061$), and this change in R^2 was not significant ($F(3, 240) = .156, p = .926$). Unsurprisingly then, no interactions were significant including the interactions between the depletion manipulation and partner manipulation ($B = .145, t(243) = .477, p = .634$), the trait self-handicapping by depletion manipulation ($B = .112, t(243) = .411, p = .681$) and the trait self-handicapping by handicap viability manipulation ($B = .067, t(243) = .247, p = .805$).

The final block assessing three way interactions was also significant, $F(7, 239) = 2.458, p = .019$. Again, though, introducing these interactions only explained an additional 0.6% of the variance in impressions ($R^2 = .067$), and this change in R^2 was not significant ($F(1, 239) = 1.509, p = .221$). Therefore, the interaction between trait self-handicapping, depletion manipulation and handicap viability manipulation was not significant ($B = .667, t(243) = 1.228, p = .221$).

Good Partner Evaluations

The primary block assessing main effects on evaluations of the good partner was significant, $F(3, 243) = 12.037, p < .001$. The main effects explained 13% of the variance in impressions ($R^2 = .129$) and this change in R^2 was significant ($F(3, 243) = 12.037, p < .001$). I found a significant main effect of trait self-handicapping ($B = -.552, t(243) = -5.502, p < .001$) such that HSH had more negative impressions of the good partner than LSH. Contrary to hypotheses, no other main effects were significant. Therefore the failed depletion manipulation ($B = .159, t(243) = 1.415, p = .158$) and the handicap viability manipulation ($B = -.195, t(243) = -1.735, p = .084$) were both non-significant.

The secondary block assessing two way interactions was also significant, $F(6, 240) = 6.789, p < .001$; however, introducing these interactions only explained an additional 2% of the variance impressions ($R^2 = .145$), and this change in R^2 was not significant ($F(3, 240) = 1.471, p = .223$). Unsurprisingly, no interactions were significant including the interactions between the depletion manipulation and partner manipulation ($B = .418, t(243) = 1.863, p = .064$), the trait self-handicapping by depletion manipulation ($B = .153, t(243) = .764, p = .446$) and the trait self-handicapping by handicap viability manipulation ($B = -.092, t(243) = -.457, p = .648$).

The final block assessing three way interactions was also significant, $F(7, 239) = 5.795, p < .001$. Introducing these interactions explained no additional variance in impressions ($R^2 = .145$), and this change in R^2 was not significant ($F(1, 249) = .001, p = .970$). Thus, the interaction between trait self-handicapping, depletion manipulation and handicap viability manipulation was not significant ($B = -.015, t(243) = -.037, p = .970$).

Mediational Effect of Fear of Failure

To further examine the relationship between the effects of trait handicapping and impressions of their potential partners, I tested if fear of failure mediated the relationships. This could provide some additional evidence that handicappers were choosing the bad partner and avoiding the good partner due to self-protection concerns. I tested mediation using Preacher and Haye's (2008) bias-corrected bootstrapping procedure with 10,000 bootstrap resamples. The indirect effect of self-handicapping on impressions of the bad partner through fear of failure was not significant as the bias corrected 95% confidence interval included zero (-.1015 - .0182). Similarly, the bias corrected 95% confidence interval of the indirect effect of self-handicapping on impressions of the good partner through fear of failure also contained zero (-.0385 - .0457). Further exploration revealed that although trait self-handicapping significantly predicted fear of failure ($B = .300$, $t(245) = 2.876$, $p = .005$), fear of failure did not predict impressions of the good ($B = .016$, $t(244) = .247$, $p = .805$) or bad partner ($B = -.110$, $t(244) = -1.339$, $p = .182$).

Exploratory Gender Analysis

As in Studies 1 and 2, I explored if gender moderated the effects described in the main analysis section. To do so, I conducted additional linear regressions, adding gender as a main effect in block 1 and to interaction terms in blocks 2, 3, and 4.

When predicting impressions of the bad partner, no main effects or interactions with gender were found. Including gender in the model did not significantly affect the results reported in the main analysis section. On evaluations of the good partner, I found a significant main effect of gender ($B = .372$, $t(239) = 2.189$, $p = .030$) such that females had more positive evaluations of the good partner than males. However, this main effect did not significantly interact with any of

our manipulations or variables of interest. Further, including gender in the model did not change any of the reported effects.

Exploratory Partner Choice Analysis

After completing ratings of their partners, participants also picked which partner they wanted to work with. To examine if our variables of interest affected this choice, I conducted a binomial logistic regression analysis with trait self-handicapping, depletion manipulation, and handicap viability as predictors of partner choice. Main effects were assessed in an initial block, 2-way interactions were assessed in a secondary block, and 3-way interactions were assessed in a final block.

The primary block of the model was significant, $\chi^2(3) = 19.175, p < .001$. Depletion level was a significant predictor of partner choice ($B = -.721, p = .021$) such that depleted participants were 2.824 times more likely to pick the bad partner than non-depleted participants. Remember, though, that this manipulation was earlier found to have affected no perceptions of depletion – thus this result should be interpreted with caution. Trait self-handicapping was also a significant predictor of partner choice ($B = 1.038, p < .001$) such that increases in handicapping scores increased the likelihood of choosing the bad partner. The partner instructions had no effect on partner choice. The second, $\chi^2(3) = 1.244, p < .742$ and third block of the model, $\chi^2(1) = .793, p < .373$, were both not significant. As such, no interactions were found.

Discussion

In Study 3, I found some initial evidence that chronic handicappers were both more drawn to a bad partner who would distract them from their goal of doing well on an important task, and simultaneously less impressed by a good partner who would facilitate their goal. While replicating decades of self-handicapping studies and Study 1 by demonstrating self-handicapping

through doing negative things, this study provides the first evidence that handicappers might forgo proactive acts of self-control, specifically by not choosing to interact with people who help their goal pursuit. This result accords with other unpublished work from our lab finding that self-handicappers structure their social networks in order to meet their self-protection goals (Milner, 2007).

Despite its allure, however, the motivation behind the forgoing of a good partner and the choosing of a bad partner is unclear in this study. Although I found trait handicapping was related to concerns over failing, this fear did not subsequently predict the evaluations of the partners, conflicting with previous research (Hirt et al, 2000). Similarly, in contrast to past research (e.g. Hendrix & Hirt, 2009), we found no effects of a handicap viability manipulation: participants handicapped both when the situation afforded a viable handicap, and when the situation removed that handicap as a viable explanation for poor performance. This suggests that handicappers might not be forming these impressions in a strategic manner to externalize future failure.

One explanation for this effect is that participants did not notice or forgot the manipulation by the time they made their ratings at the end of the study. I chose not to include a manipulation check for these instructions as I believed it would cue participants too much to the hypotheses of the study. Since there were so many moving parts and the study took up to an hour, participants could have easily forgotten about the partner manipulation by the time they rated and chose their partner near the end of the study. The lack of a manipulation check does not allow us to assess this; however, previous self-handicapping studies are similar in length and find effects of this type of manipulation (e.g. Hendrix & Hirt, 2009), suggesting this might not be the case. This lack of an effect, however, leaves open to interpretation the reason behind

handicappers' ratings of their partners. Since chronic handicappers are not only drawn to bad partners and avoiding good partners when told their partner choice matters, I cannot claim this choice is truly motivated by self-protection and strategically used to externalize failure.

One potential alternative explanation for handicappers' partner ratings is that, even if participants listened to and remembered the instructions, chronic handicappers are unable to distinguish between good partners and bad partners, while non-handicappers are able to make this distinction. Mean ratings of the targets lend some support to this: LSH rate good partners positively ($M = 5.448$) and bad partners negatively ($M = 3.960$), while HSH rate good ($M = 4.976$) and bad partners ($M = 4.258$) similarly. Although this might reflect an inability to distinguish between a good and bad partner, it could also reflect handicappers' motivated desire to work with a bad partner. After choosing their partner, we had participants write an open-ended explanation about why they chose the partner they did. Descriptively, when someone chose the good partner, they explained they picked that partner because he/she seemed to "take school serious(ly)", "have their life together", and "have their priorities right". In contrast, when someone chose the bad partner, the potential partner appeared to "realize that life was not all about school", "would be easier to work with", and was "less uptight than the other person". Perhaps these explanations differed by level of handicapping such that chronic handicappers were more likely to justify their motivated choice of a bad partner by explaining it in terms of interpersonal relatability or ease of working together. Doing so might mitigate the interpersonal costs of negative actions we often see in handicapping (Hirt et al., 2003; Eyink et al., in prep). However, this supposition needs to be directly tested in the current data set after additional coding is completed and explored more fully future work. In general, more research is needed to

explicate under what conditions handicappers avoid positive things, and if these inactions are driven by the same motivations as traditional handicapping actions.

Finally, although perhaps unsurprising given the current climate of depletion research, my manipulation of depletion was not successful in this study. Unfortunately, this left me unable to test some of my hypotheses as there were no systematic differences in depletion. Although there have been several high-profile replication failures of the depletion effect (e.g. Hagger et al., 2016), this particular manipulation was chosen as it was recently found in an upcoming registered replication project to have affected perceptions of depletion (Vohs, 2018).

In hindsight, I suspect even if the manipulation worked, we might not have seen an effect on our partner ratings due to the long length of time between the depletion manipulation and the dependent manipulations. This study took participants up to an hour, and there was upwards of 20-30 minutes between the end of the depletion manipulation and the end of the partner ratings. Thus, even if the participant had felt depleted after the e-crossing task, this might have worn off by the time our dependent variable was measured, particularly if any positive experiences provided motivation to the participant. Perhaps future studies should use a stronger manipulation such as having participants come in during their peak or off-peak times of the day, as has been used successfully in past work (Eyink et al., 2017). Although more difficult to implement, this might provide a stronger and longer-lasting manipulation of cognitive depletion.

General Discussion

Overall, the set of studies described above examined situations in which self-protective goals might overwhelm an individuals' pursuit of distal goals, causing them to strategically abstain from proactive self-control processes in order to shift attributions for failure to an external source.

These studies used multiple methodologies, samples, and domains, to demonstrate these effects. Studies 1 and 2 used online participants and imagined situations, while Study 3 used an in-lab paradigm and a task participants believed to be real. Studies 1 and 3 used student samples, while Study 2 used an older, adult sample. Study 1 explored self-handicapping in the domain of students' studying habits and behaviors. Study 2 examined when individuals plan to exercise during their day. Study 3 explored the type of partner people choose to work with on a test of mental flexibility.

In Study 1, I replicated a basic effect of actional self-handicapping (e.g. Berglas & Jones, 1978) such that chronic self-handicappers were more likely than non-handicappers to engage in negative actions, specifically bad study habits, when they lacked good self-control abilities. I found no evidence that handicappers were less likely to engage in good habits than non-handicappers, though.

In Study 2, I found some evidence that when individuals with poor self-control fear failure, they are less likely to engage proactive self-control processes and put off a difficult task until later in the day. However, I found no evidence that this inaction was predicted by trait self-handicapping – thus the motivation behind this abstention remained unclear.

In Study 3, I again found that chronic self-handicappers were more likely to engage in a self-sabotaging behavior (as found in Study 1 and numerous previous handicapping studies); however, I also found initial evidence that chronic handicappers were more likely to forgo a helpful behavior by rating a good potential partner less positively. Contrary to past work (Hirt et al., 2000), this behavior did not seem to be motivated by fear of failure and did not only occur when the handicap was viable. Thus again, the motivation behind these actions remains muddled.

Taken together, these diverse set of studies provide limited evidence for the central thesis of this dissertation that self-handicapping can occur through inactions as well as actions.

Self-Control over Self-Protection

One consistent pattern amongst these studies is the finding that, contrary to my predictions, self-control tendencies seemed to win out over self-protection concerns. In Study 1, for example, although overall chronic handicapping predicted the use of bad habits, this was only true for chronic handicappers with low self-control. If a chronic handicapper had good self-regulatory abilities, they were unlikely to use bad habits. Similarly, in Study 2, we found that concern over failure predicted the forgoing of a proactive strategy; but again, only for those who were low in self-control. If a person with good self-regulatory abilities feared failure, they were still likely to use the proactive strategy and exercise early in the day. Despite my predictions to the contrary, these results suggest that at least in the domains studied and with the paradigms used, self-control tendencies outweigh self-protection. This holds true even when fear of failure is high and self-protection concerns might be especially salient.

This seems to suggest a re-evaluation of my conceptualization of how individuals balance having multiple active goals of self-protection and distal achievement. Despite previous research finding that achievement is often sacrificed to engage in self-handicapping to protect self-esteem (e.g. Berglas & Jones, 1978), it seems that individuals with good self-control can use proactive self-control processes to structure the situation to remove the need to react in such a protective, but damaging, manner. For example, in Study 3, I found that trait self-handicapping predicted the amount of fear an individual felt about failing at an important task (see also Hirt et al., 2000) such that chronic handicappers felt more fear than non-handicappers in the exact same situation. Despite these heightened concerns, this fear of failure did not predict partner evaluations. This

suggests that individuals, particularly those with good self-control as seen in Studies 1 and 2, might have structured their environment in a way so as to prevent themselves from reacting negatively to fear of failure in the moment. Just as those with good self-control are able to remove themselves from situations that tempt them with in-the-moment rewards, individuals might be able to avoid handicapping by structuring their environment to prevent themselves from engaging in self-sabotage, despite any in-the-moment panic and fear they might experience.

This suggests that our effects might differ if we look at these individuals only when they are only engaging in reactive self-control, versus when they are able to engage in proactive self-control. In situations where an individual is not able to prepare, they might indeed fail at in-the-moment, reactive self-control when confronted with potential failure, and self-protection might win, causing them to engage in self-handicapping. However, in other situations where an individual is prepared (e.g. is able to structure their situation, create implementation intentions, etc.), we might see this same individual with the same amount of fear of failure, not handicap due to the proactive processes they engaged in.

Future research should directly test these suppositions and examine boundary conditions. For example, if task importance or fear of failure is increased drastically, would individuals be more likely to engage in self-protection? It's possible that proactive strategies might break down in these extremes; however, if the situation is well-structured through proactive processes, the individual might be able to avoid handicapping no matter the amount of panic and fear they experience, as this damaging self-protective option would be removed from their environment.

All of this implies that one way to go about reducing self-handicapping behavior amongst populations of interests (i.e. students, athletes) is to bolster individuals' self-control abilities, specifically their proactive self-control processes. As in the literature, most lay individuals

believe self-control involves only a reactive process. However, most successful self-regulators use proactive processes to remove the need to engage in that in-the-moment impulse control that so often fails (e.g. Trope & Fishbach, 2000; Fishbach et al., 2003). Descriptively, students in Study 1 were much less familiar with proactive self-control strategies ($M = 2.658$) than other types of positive behaviors ($M = 5.256$). By increasing awareness and use of these proactive studying strategies, students might react less negatively when confronted in the moment with potential failure, thus decreasing the use of handicapping and its downstream consequences (Zuckerman, Kieffer, & Knee, 1988; Zuckerman & Tsai, 2005). Obviously, this type of intervention awaits future research and direct testing before use.

Ambiguity and Self-handicapping

Another interesting implication of these effects (or lack thereof), is that handicappers must have unambiguous excuses for failure. Although still present, the tie from forgoing proactive self-control to failure is less clear than between failure and engaging in negative behaviors. For example, one proactive study strategy is to turn off your Wi-Fi when studying to avoid the temptations of social media, YouTube, etc. However, if a handicapper forgoes this proactive strategy, the link between not turning off the internet and failing at studying is unclear. Did not turning the Wi-Fi off *really* lead directly to the failure? Or was it something else – like the clearly negative action of getting on YouTube? Participants seem unsure.

This ambiguity of inaction is consistent with findings of the feature positive effect (e.g. Jenkins & Sainsbury, 1979) which holds that both people and animals have difficulty processing non-occurrences to form attitudes and make judgments (e.g. Fazio, Sherman, & Herr, 1982). Thus, although nonactions should logically provide the same information as a non-action, research finds individuals struggle to comprehend the meaning of them, much in the same way

our handicapping participants seem to struggle to understand the attributional meaning of an inaction. Instead, handicappers seem to prefer a more direct and unambiguous strategy of clear, negative actions like listening to distracting music (Rhodewalt & Davison, 1984) or drinking (Kolditz & Arkin, 1982). In this way, the link between their behavior and the failure is unavoidable and the external attribution must be made.

We see evidence for this supposition in the lack of a self-handicapping effect on good study habits in Study 1, and the lack of a self-handicapping effect on a proactive exercise strategy in Study 2. Further, in Study 1, we also see a lack of a self-handicapping effect on ambiguous study habits. For these ambiguous habits, the attribution between their use and failure might be even less clear than for inactions. These patterns imply that handicapping truly is a strategic, motivated process – if a behavior can't be directly tied to failure, a handicapper won't use it, no matter how motivated by failure concerns they are as the benefit of externalization will not be present.

Of course, this supposition is called into question by the lack of a handicap viability effect in Study 3. We found all handicappers, regardless of whether they were told partner choice affected their performance or not, showed more positive evaluations of the bad partner and more negative impressions of the good partner. Without a manipulation check, it is unclear exactly what to make of this null effect. Perhaps participants didn't remember the manipulation by the time they got to the partner ratings; or maybe participants remembered the manipulation, only to decide the handicap was viable for them regardless of the instructions (e.g. Hendrix & Hirt, 2009). Without a direct test, though, the implication of this null effect remains unclear.

Future lines of work can test these implications and mixed results by directly manipulating the attributional ambiguity of external justifications provided to handicappers.

Instead of just varying whether a handicap is viable or not, adding a third condition where the attributions to failure are unclear or mixed could provide an interesting future test of these results.

Private vs. Public Nature of Self-Handicapping

Since its inception, researchers in the field of self-handicapping have debated whether handicapping is motivated by the goal of protecting one's self-esteem (Jones & Berglas, 1978) or the goal of managing others' impressions of you (Kolditz & Arkin, 1982). Interestingly, handicappers' preference for clear, negative actions might indicate that the interpersonal goals involved in self-handicapping take a back seat to self-protection.

Specifically, in previous work, targets who handicap are rated more negatively than non-handicappers (Hirt et al., 2003; Eyink et al., in prep). We find that handicappers sometimes change their behaviors based on those interpersonal consequences (Eyink et al., in prep), and that different handicaps vary in the amount of interpersonal cost associated with them (Eyink, Boucher, & Hirt, in prep). The claims used in these previous studies are quite explicit – the target clearly withdraws effort before a test or claims illness before an interview. In the current studies, though, inactions less clearly and explicitly provide an attribution to failure. Although detrimental to self-protection, this lack of clarity could provide additional interpersonal benefits. For example, a student could forgo the proactive strategy of leaving his cellphone at home and justify this behavior as needing to set alarms to pace studying or by needing to look up terms on the internet. Because this type of handicapping is more ambiguous and easier to justify, the interpersonal costs associated with it might be lower. If an audience member is not able to directly tie the action to a motivated cover-up for failure, he or she might be less likely to

derogate the handicapper. Future research should directly assess if inactions versus actions do vary in the interpersonal costs associated with their use.

Despite this potential benefit of decreased interpersonal costs, it seems that handicappers still prefer the more costly, but direct and explicit actions researchers traditionally have studied in the literature. This implies that the impression management goals involved in self-handicapping take a backseat to self-protection goals as individuals care more about the attributions individuals make about performance than being liked.

Conclusion

Although traditionally involving doing something negative, I investigated whether individuals motivated by self-protection concerns would also forgo doing something positive. Results show limited support for this prediction and seem to imply that self-handicappers prefer unambiguous actions that can be clearly tied to future failure.

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Figures

Figure 1. Scatterplot of trait self-handicapping scores and trait self-control scores in Study 1.

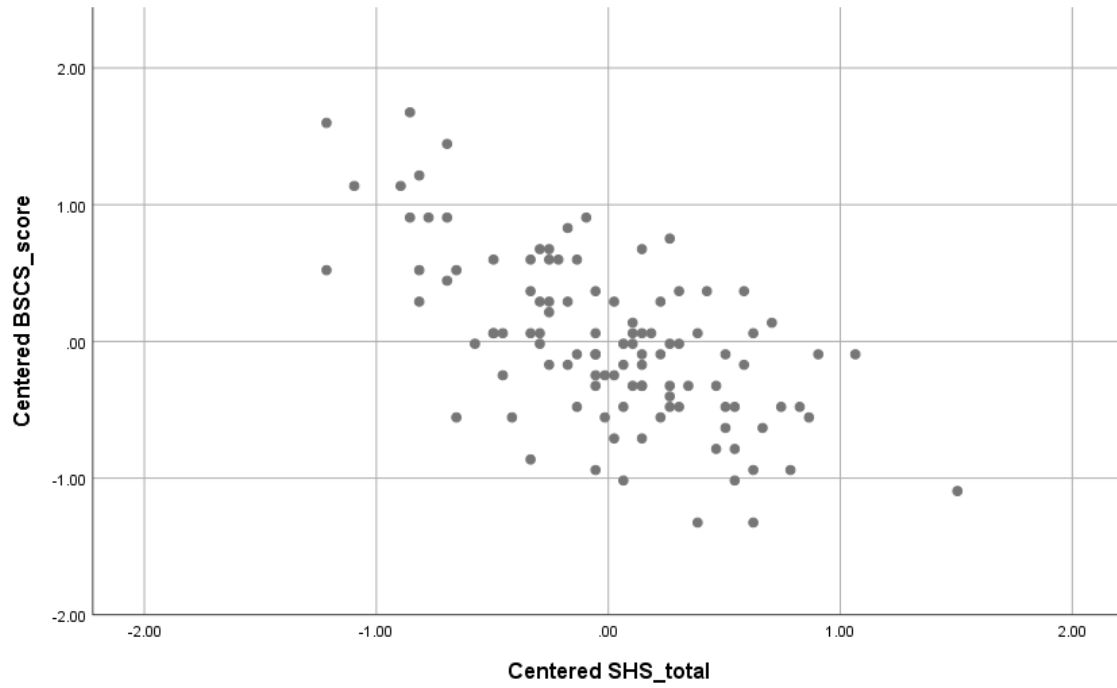


Figure 2. Interaction of self-handicapping and self-control scores on the likelihood to engage in bad habits in Study 1.

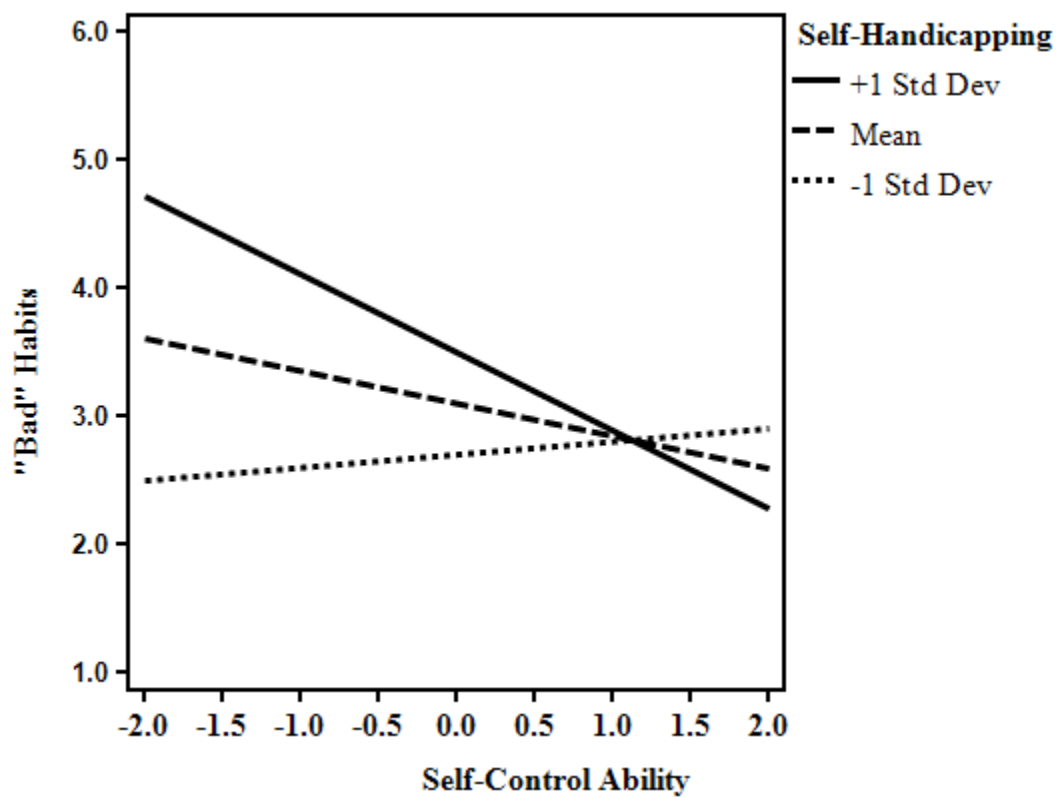


Figure 3. Scatterplot of trait self-handicapping scores and trait self-control scores in Study 2.

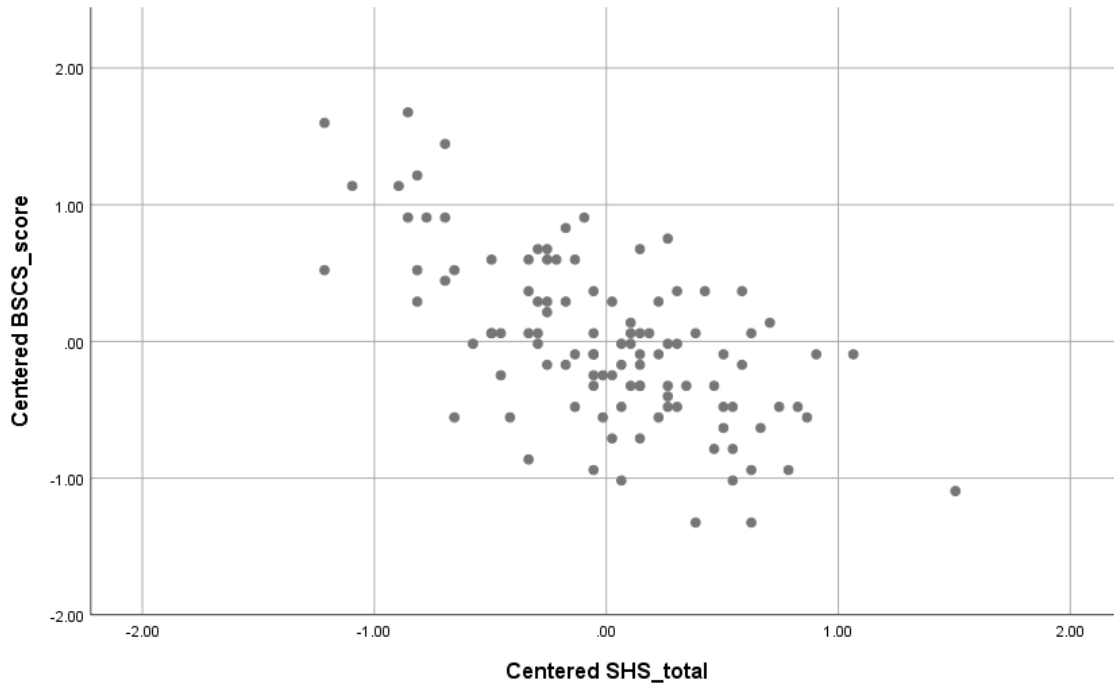
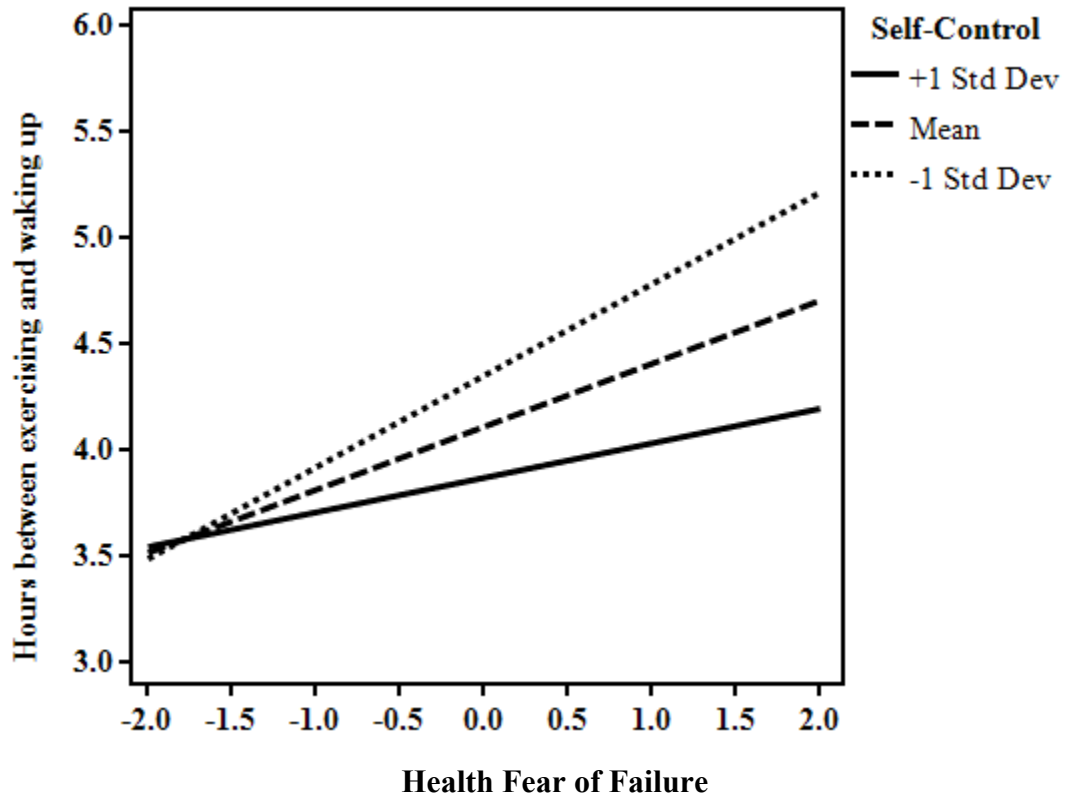


Figure 4. Interaction of self-control and fear of health goal failure scores on the amount of time between waking up and exercising in Study 2.



Appendix 1: Study 1 Pilot Testing and Final Measures

Below, I present the results of a pilot test used to create the composite measures for Study 1 assessing “good habits”, “bad habits”, and “ambiguous habits”. 81 participants enrolled in several sections of social psychology at Indiana University – Bloomington completed this packet of questionnaires for partial fulfillment of extra credit.

For each person, place, item, or behavior, participants rated how helpful or distracting they found the habit to be for their studying. The average ratings are presented below along with the final categorization of each scale item as either good, bad, or ambiguous. Good items are those that were rated as helpful, but not distracting; bad items are those that are distracting, but not helpful; ambiguous items are those that are both distracting and helpful.

	Helpful (SD)	Distracting (SD)	Final Categorization
People			
No one	5.160 (1.545)	2.407 (1.701)	GOOD
People not in my class or who have not previously taken the class (e.g. friends, significant others, roommates, family members, coworkers, etc.)	3.148 (1.493)	5.074 (1.243)	BAD
People in my class or who have previously taken the class	5.506 (1.226)	3.469 (1.295)	AMB
Places			
Communal study area (at library, dorm, IMU, etc.)	4.704 (1.706)	4.198 (1.512)	AMB
Private study area (at library, dorm, IMU, etc.)	5.975 (1.012)	2.432 (1.303)	GOOD
Living area (of dorm, apartment, house, sorority house, fraternity house, etc.)	3.988 (1.728)	4.654 (1.621)	AMB
In bed	2.914 (1.567)	5.062 (1.528)	BAD
Friends’, significant others’, or family members’ house, apartment, dorm, etc.	3.420 (1.303)	5.247 (1.124)	AMB

Coffee shop or restaurant	4.012 (1.867)	4.383 (1.463)	AMB
Park, Outside	3.926 (1.618)	4.123 (1.400)	AMB
Classroom, computer lab, etc. of campus academic building	4.914 (1.286)	2.852 (1.205)	GOOD
Items			
Cellphone	2.988 (1.410)	6.074 (1.034)	BAD
Laptop	5.556 (1.215)	4.407 (1.531)	AMB
Snacks or drinks (e.g. water, coffee, energy drinks, soda, etc.)	4.975 (1.516)	3.556 (1.517)	AMB
Alcohol or drugs	1.296 (1.006)	5.864 (2.167)	BAD
Writing implements (including notebooks, paper, pencils, pens, highlighters, sticky notes, etc.)	6.222 (0.935)	1.630 (0.901)	GOOD
Textbook	5.877 (1.208)	1.395 (0.904)	GOOD
Lecture slides, notes, and study guides	6.679 (0.629)	1.383 (0.845)	GOOD
Behaviors			
Texting calling, or talking about topics unrelated to the course	1.358 (0.713)	6.469 (1.062)	BAD
Texting calling, or talking about topics related to the course	4.556 (1.332)	4.025 (1.775)	AMB
People watching, daydreaming	1.444 (0.866)	6.000 (1.235)	BAD
Using social media	1.173 (0.469)	6.568 (0.821)	BAD
Using email	3.025 (1.557)	4.630 (1.721)	AMB
Checking Canvas	4.716 (1.527)	3.556 (1.636)	AMB
Browsing the internet, internet shopping	1.309 (0.875)	6.173 (1.412)	BAD
Listening to music	4.160 (1.927)	3.938 (1.784)	AMB
Watching TVs/movies, or listening to podcast	1.840 (1.279)	5.642 (1.607)	BAD
Watching YouTube clips	2.086 (1.559)	5.531 (1.740)	BAD
Watching tutorials about course content (e.g. Khan Academy, Crash Course, etc.)	5.148 (1.467)	2.284 (1.098)	GOOD
Organizing class materials or backpack	4.556 (1.754)	3.222 (1.492)	AMB
Playing a game on cellphone or computer	1.222 (0.689)	6.358 (1.316)	BAD
Reviewing textbook (including reading, summarizing, highlighting, etc.)	5.741 (1.311)	1.827 (1.192)	GOOD
Making flashcards, using Quizlet, or testing recall	6.148 (1.085)	1.704 (1.198)	GOOD

Reviewing or rewriting class notes, rewatching lectures	6.395 (0.801)	1.593 (1.202)	GOOD
Making study guides, outlines, or review sheets	6.469 (0.760)	1.568 (1.234)	GOOD
Working on other assignments	3.222 (1.565)	4.247 (1.670)	AMB
Taking a practice test, completing practice problems	6.235 (1.003)	1.605 (1.033)	GOOD
Attending a review session	6.222 (1.107)	1.863 (1.403)	GOOD
Taking a nap	3.160 (1.616)	4.815 (1.711)	AMB
Not studying, choosing to do other activities	1.370 (0.968)	6.259 (1.340)	BAD
Proactive Behaviors			
Restricting use of distracting websites (e.g. using apps like StayFocused, Hey Focus, Mindful Browsing)	5.049 (1.897)	2.235 (1.675)	GOOD
Restricting social media use (e.g. turning off social media notifications, deleting social media apps, deactivating social media accounts, posting on social media you won't be using your account for a while)	5.778 (1.612)	2.123 (1.623)	GOOD
Making a commitment in person or on social media to study	4.395 (1.954)	2.395 (1.602)	GOOD
Restricting internet use (e.g. turn off Wi-Fi, turn off data, enter airplane mode)	4.852 (2.044)	2.519 (1.817)	GOOD
Restricting cellphone use (e.g. silencing phone, turning off phone, enabling do not disturb, leaving phone in backpack or at home, using an app like Pocket Points)	5.926 (1.403)	2.235 (1.583)	GOOD
Using a study technique involving working for a set amount of time and then taking a break	5.802 (1.418)	2.247 (1.593)	GOOD

Finally, below are ratings for how each of the final composite measures hung together for ratings of helpfulness and distraction. All three composites had acceptable reliability.

GOOD_helpful $\alpha = .788$ BAD_helpful $\alpha = .687$ AMB_helpful $\alpha = .708$

GOOD_distracting $\alpha =$
.883 BAD_distracting $\alpha = .699$ AMB_distracting $\alpha = .682$

Appendix 2: Study 2 Materials

Health Fear of Failure

Please respond to each of the following statements. Each statement is asking about how you currently feel at this moment. Please respond with the appropriate number. If you think the statement captures very well what you are currently feeling, indicate “7” for very much. If the statement does not capture at all what you are currently feeling, indicate a “1” for not at all.

1	2	3	4	5	6	7
Not at all						Very much

1. I have doubts about my ability to maintain a healthy diet and exercise program.
2. I am confident that I can maintain a healthy diet and exercise program.*
3. I am uncertain about how well I can maintain a healthy diet and exercise program.
4. I am not setting my expectations too high for maintaining a healthy diet and exercise program.
5. I expect I will poorly maintain a healthy diet and exercise program.

Health Importance and Difficulty (Items 7 and 8)

Please indicate your agreement or disagreement with the statements that follow using the provided scale

1	2	3	4	5	6	7
Strongly agree						Strongly disagree

1. Doing well in school and studying for my classes is very important to me
2. I find it very unpleasant/difficult to do well in school and study for my classes
3. Maintaining social relationships is very important to me

- 4. I find it very unpleasant/difficult to maintain social relationships
- 5. Keeping my clothes clean and organized is very important to me
- 6. I find it very unpleasant/difficult to keep my clothes clean and organized
- 7. Exercising and being healthy is very important to me
- 8. I find it very unpleasant/difficult to exercise and be healthy
- 9. Finding a job or internship is very important to me
- 10. I find it very unpleasant/difficult to find a job or internship

Agenda and Instructions

Imagine that you are planning a Saturday using the schedule printed below.

5am	
6am	
7am	
8am	
10am	
11am	
12pm	
1pm	
2pm	
3pm	
4pm	
5pm	
6pm	
7pm	
8pm	
9pm	
10pm	
11pm	
12am	
1am	
2am	
3am	
4am	

– Other _____

– Other _____

(For each activity, participants selected a time ranging from 5am to 4am on a drop-down menu).

Evaluative Concern (scoring based off of Eyink et al., 2017)

Please respond to each of the statements on the following pages. Each statement is asking about how you currently feel at this moment in regards to the upcoming mental flexibility task. Please respond with the appropriate number. If you think the statement captures very well what you are currently feeling, indicate "7" for very much. If the statement does not capture at all what you are currently feeling, indicate a "1" for not at all.

When you are ready to begin, click < continue > below.

1	2	3	4	5	6	7
Not at all						Very much

1. It will bother me if I don't do as well as others expect me to.
2. I will be disappointed with myself if I perform poorly.
3. I am not worried about what others think of my performance.
4. I have doubts about my ability to perform well on this task.
5. I will feel I have let others down if I don't do my best.
6. I am confident that I will perform well.
7. I have set a high standard for my performance on this task.
8. It is important to me that I do well on this task.
9. I am uncertain about how well I will do.
10. I would be proud if I did well on this task.
11. I am not setting my expectations too high for my performance on this task.
12. I want to do as well as I possibly can.
13. I expect to do poorly on this task.
14. I am concerned about how others might regard my performance.
15. I won't be satisfied unless I get a high score.

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PUBLICATIONS

- Eyink, J.R., Hirt, E.R., Crawford, J., Karpen, S., & *Heltzel, G. (under review). Give me your best effort (or not): Sex differences in compliance with injunctive and descriptive norms.
- Eyink, J.R., Motz, B., *Heltzel, G., & Liddell, T. (under review). The Role of “Fit” in Social Norm Interventions: The Case of Self-Regulated Studying Behaviors.
- Eyink, J.R., Hirt, E. R., Hendrix, K. S., & Galante, E. (2017). Circadian variations in claimed self-handicapping: Exploring the strategic use of stress as an excuse. *Journal of Experimental Social Psychology*, *69*, 102-110.
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- Eyink, J.R., Hirt, E.R., & Milner, B. (in prep). “I know what boys (and girls) like”: Gender differences in audience reactions to self-handicapping.
- Eyink, J.R., Boucher, K., & Hirt, E. (in prep). Playing the stereotype threat card: Comparing the attributional and interpersonal effectiveness of claimed self-handicaps of threat and discrimination.
- Sherman, J., Hirt, E., Clarkson, J. J., Eyink, J. R., *Culp, A. (in prep). “You chose poorly”: Belief in free will mediates the relationship between political conservatism and internal attributions of victims.

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IN-PROGRESS RESEARCH

- Eyink, J. (in progress). The inactions of self-handicapping.
- Eyink, J. & Hirt, E. (in progress). Beliefs about control as a determinate of self-handicapping behaviors.
- Eyink, J., Heltzel, G., & Hirt, E. R. (in progress). Conflicting injunctive and descriptive norms in charitable giving.
- Ruiz, H., Hirt, E., Eyink, J., & Sherman, J. (in progress). The effect of ingroup vs. outgroup comparisons in vicarious restoration.
- Eyink, J., & Hauptert, M. (in progress). Weight identification in response to threatening feedback.

- Eyink, J., Van Loo, K., & Kroeper, K. (in progress). Ironic effects of body cameras on policing behavior.
- Stanko, K., Eyink, J., & Van Loo, K. (in progress). "Can I just...": The gendered effects of using hedging words.
- Hirt, E., Lee, S., Sherman, J. & Eyink, J. (in progress). Embodied cleansings' effect on ego-depletion.

PAPER PRESENTATIONS

- Eyink, J., *Heltzel, G., & Hirt, E. (April 2019). Norm conflicts in donation amounts. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Motz, B., & Eyink, J. (November 2017). Student motivations for online self-directed learning activities, and the norms that persuade them. Paper presented at the IU Online Conference, Indianapolis, IN.
- Eyink, J., Hirt, E., Hendrix, K., & Galante, E. (April 2017). Circadian Variations in Claimed Self-Handicapping: Exploring the Strategic Use of Stress as an Excuse. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Eyink, J., Boucher, K., & Hirt, E. (January 2017). The Interpersonal Consequences of Claiming Stereotype Threat and Discrimination. Paper presented at the meeting of the Society for Personality and Social Psychology, San Antonio, TX.
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- Eyink, J., Boucher, K., & Hirt, E. (May 2015). Claiming Stereotype Threat as an Excuse Backfires. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Eyink, J., & Hirt, E. (May 2014). Gendered Norm Adherence in Investing. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Eyink, J., Hirt, E., Milner, B., & Crawford, J. (May 2013). I know what boys (and girls) like: Gender differences in audience reactions to behavioral self-handicapping. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Eyink, J., Hirt, E., Milner, B., & Crawford, J. (April 2013). I know what boys (and girls) like: Gender differences in audience reactions to behavioral self-handicapping. Paper presented at the meeting of the Social Psychologists of Indiana, Bloomington, IN.

POSTER PRESENTATIONS

- Eyink, J., Motz, B., *Heltzel, G., & Liddell, T. (February 2019). The Role of "Fit" in Social Norm Interventions: The Case of Self-Regulated Studying Behaviors in Online Psychology 101. Poster presented at the Attitudes preconference meeting of the Society for Personality and Social Psychology, Portland, Oregon.

- Eyink, J., *Heltzel, G., & Hirt, E. (March 2018). Social Norm Conflicts in Charitable Giving. Poster presented at the meeting of the Society for Personality and Social Psychology, Atlanta, Georgia.
- Sherman, J., Eyink, J., & Hirt, E. (March 2018). You chose poorly: Free will beliefs mediate the relationship between conservatism and internal attributions of those in need. Poster presented at the meeting of the Society for Personality and Social Psychology, Atlanta, Georgia.
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- *Marcinkowski, M., Eyink, J., & Hirt, E. (April 2017). Cool Beans: Exploring the Relationship between Self-Handicapping and Valence Weighting. Poster presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- *Heltzel, G., Eyink, J., & Hirt, E. (April 2017). Sex Differences in Norm Compliance within a Donating Context. Poster presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- *Koyfman, A., Eyink, J., & Hirt, E. (April 2017). How Moods Affect Creative Performance. Poster presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- *Heltzel, G., Eyink, J., & Hirt, E. (January 2017). Sex Differences in Social Norm Compliance to Donating. Poster presented at the meeting of the Society for Personality and Social Psychology, San Antonio, Texas.
- Eyink, J., Boucher, K., & Hirt, E. (January 2016). Differential Interpersonal Effects of Claimed Self-Handicaps: Why Claiming Stereotype Threat Backfires. Poster presented at the meeting of the Society for Personality and Social Psychology, San Diego, California.
- Eyink, J., Boucher, K., & Hirt, E. (February 2015). Crying “Stereotype Threat!”: Interpersonal Consequences of Claiming Stereotype Threat. Poster presented at the meeting of the Society for Personality and Social Psychology, Austin Texas.
- Eyink, J. & Hirt, E. (February 2014). Gender Differences in Norm Compliance. Poster presented at the meeting of the Society for Personality and Social Psychology, Austin Texas.
- Eyink, J., Hirt, E., Milner, B., & Crawford, J. (December 2013). I know what boys (and girls) like: Gender differences in audience reactions to behavioral self-handicapping. Poster presented at Indiana University’s Department of Psychological and Brain Science’s Research Fair.
- Eyink, J., Hirt, E., & Crawford, J. (May 2013). Gender differences in Norm Compliance Explain the Difference in Behavioral Self-handicapping. Poster presented at the meeting for the Society for the Study of Motivation, Washington, DC.
- Eyink, J. & Arkin, R. (May 2011). Threat and Performance: How Upward Social Comparison Can Bolster or Undermine Performance. Poster presented at The Ohio State University’s Denman Undergraduate Research Forum.
- Eyink, J. & Arkin, R. (May 2011). Threat and Performance: How Upward Social Comparison Can Bolster or Undermine Performance. Poster presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Eyink, J. & Arkin, R. (May 2011). Threat and Performance: How Upward Social Comparison Can Bolster or Undermine Performance. Poster presented at The Ohio State University’s Psychology Department Undergraduate Research Colloquium.

* *indicates undergraduate mentee*

GRANTS, FELLOWSHIPS, AWARDS

2018 – 2019	Indiana University’s Future Faculty Teaching Fellowship
2018	Indiana University’s Department of Psychological and Brain Science’s Outstanding Graduate Associate Instructor Award
2018	Indiana University’s Department of Psychological and Brain Science’s Outstanding Teaching Assistant Award
2018	Indiana University’s Grant-in-Aid of Doctoral Research Award
2018	Indiana University’s Provost Women in Science Travel Award
2017	Gordon Kato Summer Research Scholarship
2017	Indiana University’s Provost Women in Science Travel Award
2016 – 2017	APS Fund for Teaching and Public Understanding of Psychological Science, Improving Student Motivation and Success with Social Norms Messaging, Graduate Researcher
2013 – 2016	National Science Foundation (NSF) Graduate Research Fellowship
2016	Indiana University’s Provost Women in Science Travel Award
2016	Indiana University’s College of Arts and Sciences Fall Travel Award
2016	Society for Personality and Social Psychology’s (SPSP) Graduate Travel Award
2015	Summer Institute of Social Psychology & Personality (SISPP), Northeastern University
2015	Indiana University’s Provost Women in Science Travel Award
2014	Indiana University’s Provost Women in Science Travel Award
2014	Indiana University’s Graduate and Professional Student Organization (GPSO) Travel Award
2013	Indiana University’s Provost Women in Science Travel Award
2012 – 2013	Indiana University Research Fellowship
2011	Alkire Research Scholarship, Psychology Department, The Ohio State University
2011	Psychology Conference Travel Scholarship, The Ohio State University
2008 – 2012	Maximus Scholarship, The Ohio State University
2008 – 2010	Ohio Board of Regents Scholarship
2008	Scholarship of the Greene County Alumni Association of OSU

PROFESSIONAL AFFILIATIONS AND SERVICES

Memberships

Association for Psychological Science

Midwestern Psychological Society

Phi Beta Kappa

Psi Chi

Society for Personality and Social Psychology

APA Division 12: Society for the Teaching of Psychology

Services

2015 – Present

Ad hoc Reviewer for Personality and Social Psychology Bulletin

2014 – Present

Ad hoc Reviewer for Journal of Experimental Social Psychology

2013, 2015, 2017

Coordinator for Social Psychologists of Indiana meeting

2015 – 2017

Coordinator for Indiana University's Social Seminar