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Procrastinating with Friends: Differences and Similarities in Affective and Academic Experiences

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Procrastinating with Friends: Differences and Similarities

In Affective and Academic Experience

Allison Palmer

Macalester College

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Abstract

Procrastination is part of the daily experience of many people, especially students, who may procrastinate as much as 70% of the time (Knaus, 1973). This study sought to establish differences in affective and academic outcomes depending on the type of procrastinatory activity one engages in. More specifically, we looked at whether social vs. nonsocial forms of procrastination (e.g., going out with friends vs. watching TV alone) were associated with different consequences. The social distinction was further divided into invited (i.e., responding to others' invitations) vs. sought-out (i.e., initiating a social activity) domains. Participants completed both quantitative and qualitative measures. The sought-out social condition had more positive outcomes than the invited social and non-social conditions.

Procrastinating with Friends:

Is it Better or Worse to Procrastinate Alone?

For many, starting projects in a timely fashion is a constant struggle. In one study, 46% of college students sampled reported almost always procrastinating writing term papers, and 65% expressed the desire to reduce procrastinatory behavior (Solomon & Rothblum, 1984). Similarly, Onwuegbuzie (2004) reports that graduate students procrastinate between 40-60% of the time. Procrastination, as defined by Knaus (1973), is the tendency to postpone starting or completing that which is necessary to reach a goal. This form of delaying unpleasant tasks is hardly new. The ancient Babylonian leader Hammurabi even made such behavior against the law, believing that procrastination disadvantaged the procrastinator (Knaus, 2000). A myriad of studies have been conducted on this topic, many of which support the Babylonian belief that procrastination leads to negative outcomes. By definition, anything that gets in the way of an achievement goal can be considered procrastination. In a college setting, this often refers to any behavior that puts off engaging homework. Watching television, surfing the internet, playing a game, or socializing before a due date are all classic examples of procrastinatory actions. Research to date has not differentiated between any of these behaviors; in terms of procrastination and its largely negative effects, they are considered all one and the same. This study seeks to rectify this oversight by exploring the differences in outcomes, if any, between varying types of procrastinatory activities. In particular, we wish to study the different affective and academic experiences of social vs. nonsocial procrastination.

Procrastination

Though procrastination may seem to be a simple topic, many different types of procrastination with distinctive characteristics have been posited over the years. One of the most recent theories is Choi and Chu's (2005) model of active and passive procrastination. In this model, passive procrastination is procrastination as it is commonly described: unintended delaying of a task because of task aversivion, anxiety, etc. Active procrastination, on the other hand, is practiced by people who actively decide to do their work later, often because they work better under time constraints or are prioritizing other work. This distinction builds on a more common delineation, first proposed by Ferrari (1993), that accepts and focuses on two main types of dawdling: functional procrastination and dysfunctional procrastination. Functional procrastination is, as its name suggests, a type of delay that increases chances for success, such as waiting for more information, waiting for much-needed help, etc. (Ferrari, 1993). Dysfunctional procrastination, however, is a different story and results in many negative consequences. This type of dawdling comes in two main forms: decisional and behavioral (Ferrari, 1994).

Decisional Procrastination

Decisional procrastination is the delaying of making a decision, such as choosing between colleges. It is a type of cognitive delay that manifests itself in situations that are stressful (Janis & Mann, 1977). Most people who engage in this type of dallying are strongly dependent upon others for input and decision-making (Ferrari, 1994) and primarily deal with stressors by avoiding them (Ferrari et al., 1995). Decisional procrastination may cause people to miss out on opportunities: they spend so much time making the decision that, by the time they do, the deadline has passed. One example

Ferrari and Emmons (1995) give is of a couple deciding between buying their dream home that has just come on the market or their dream car. Their personal finances, loan interest rates, etc. may enable them to own one but not the other. By the time they have reached a decision, however, interest rates may have gone up, their financial situation may have changed, or the house they did want to buy may have been sold to other buyers. Delaying effectively makes their choice for them as well as puts them at risk of not getting either of the things they want.

Behavioral Procrastination

Behavioral procrastination, on the other hand, involves delaying work on a task that is necessary to reach a goal, such as writing a term paper or completing a tax form. It manifests itself when a task is deemed boring or aversive (Ferrari & Scher, 2000). Behavioral procrastination is the primary point of interest for the current research for two reasons: first, the intended college student sample is very familiar with this type of dallying, and second, behavioral procrastination is more strongly predicted by low self-esteem than decisional procrastination (Ferrari, 1994). Self-esteem is also a main component when discussing a person's social world (Leary et al., 1995), so the relationship between social vs. nonsocial behavioral procrastination was deemed to be in more urgent need of study than such a relationship in decisional procrastination.

Many studies have linked behavioral procrastination with a myriad of consequences, including lower performance in academics (Hill, Hill, Chabot & Barrall, 1978; Owens & Newbegin, 1997; Tice & Baumeister, 1997). Despite the established nature of this relationship, recent studies have shown it to be more complex than once thought. Beck, Koons, and Milgrim (2000) conducted a study in which they measured

academic ability using SAT scores. Students with high SAT scores largely escaped negative academic outcomes whereas students with low scores showed the predictable grade decline as they procrastinated more. Few other studies, however, have taken a close look at this phenomenon, indicating that this area needs more research. In another twist, Owens and Newbegin (1997) showed people's academic performance negatively correlated with academics, as predicted by past literature. This relationship, however, was backwards: low grades initially *caused* procrastination rather than procrastination causing low grades. Low grades made students have less academic confidence, leading them to procrastinate more. This finding is congruent with other studies which have shown low self-esteem to be an important predictive factor of procrastination (e.g., Ferrari, 2004). Despite these qualifications, most researchers in the field accept that procrastination leads to lower academic performance with such important studies as Tice and Baumeister (1997; discussed below), among others, establishing a clear link between procrastination and lower grades.

As stated above, research has established the link between lower global self-esteem (Ferrari, 1991; Ferrari, 1994; Beswick, Rothblum, & Mann, 1988; Solomon & Rothblum, 1994) and procrastination. The majority of these studies have given participants procrastination scales and self-esteem scales, each investigation showing the expected inverse relationship. Much as discussed above with Owens and Newbegin (1997), whether procrastination leads to lower self-esteem or lower self-esteem leads to procrastination is debatable. Almost certainly, the relationship exists in a somewhat circular manner: one leads to the other and then back again.

Another area in which procrastination effects are substantial is with anxiety and

stress: namely, more, and lots of it (Scher & Osterman, 2002; Owens & Newbegin, 1997;

Tice & Baumeister, 1997). These studies have shown that procrastinators continually

rate higher on stress and anxiety scales. This has both an established before and after

quality: anxiety about performance leads people to procrastinate (Onwuegbuzie, 2004),

which in turn raises stress as due dates loom (Tice & Baumeister, 1997). Onwuegbuzie

(2004) conducted his study on 135 graduate students, giving them questionnaires that

determined their fear of and anxiety towards statistics as well as the amount they

generally procrastinate. As predicted, students who showed higher amounts of anxiety

also showed higher amounts of procrastination. Along a similar vein, Tice and

Baumeister studied the amount of stress procrastinators feel. In this research, Tice and

Baumeister conducted two studies. In the first, they recorded the times students turned in

term papers as well as had the participants take a procrastination survey. Also, students

early in the semester took questionnaires that asked about their health, including a

measure of their overall stress level. In this first study, procrastinators (those who turned

in their term paper much later than non-procrastinators as well as scored higher on the

procrastination scale) showed significantly *less* stress than nonprocrastinators. The

researchers, however, found their timing of the stress questionnaires suspect: the stress

questionnaire was given very early in the semester, long before the term paper was due.

In the second study, Tice and Baumeister administered these questionnaires the last week

of class (when the term paper and a slue of other assignments were due). In Study 2,

participants showed the expected positive correlation between procrastination and stress:

those who procrastinate more had higher levels of stress at the end of the semester than

their more pro-active counterparts. The results in Study 2 and Study 1 were then compared, which showed that procrastinators, while enjoying initial lowers levels of stress, showed higher levels of stress overall because the end of the semester stress was so high. All in all, the authors conclude that anxiety leads to procrastination and procrastination leads to stress.

Procrastinators have also been shown to have significantly worse health than non-procrastinators (Tice & Baumeister, 1997; Sirois, Melia-Gordon, & Pychyl, 2003), both because of higher stress levels (Tice & Baumeister, 1997) and behavioral pathways that delay diagnosis and treatment of illness (Sirois, Melia-Gordon, & Pychyl, 2003). Tice and Baumeister (1997), along with giving participants stress measures, also recorded their overall health with doctor's visits. Findings were similar to the findings related to stress: those who procrastinated showed initial better health early in the semester but as time went on, procrastinators had significantly more health problems than nonprocrastinators. Again, better health in the beginning did not compensate for worse health in the end: procrastinators had significantly worse health overall. This finding was supported by Sirois, Melia-Gordon, and Pychyl (2003). In this study, researchers sought to explore Tice and Baumeister's (1997) experiment by creating a model that would help explain why procrastinators experience worse overall health. Sirois, Melia-Gordon, and Pychyl gave participants questionnaires that established their amount of procrastination, their overall stress level, the number of wellness behaviors they exhibit (such as going to the doctor, eating correctly, etc.), and the number of physical health problems the participants experienced. Participants who showed higher levels of procrastination also had higher levels of stress, worse health, and fewer wellness behaviors. The researchers

theorized that procrastinators had worse health not just because of indirect factors such as experiencing more stress, but also because they directly procrastinated important healthy behaviors such as doctors' visits, exercise, etc. Thus, the link between higher levels of procrastination and worse overall health is a well-established relationship. All in all, current literature has documented quite clearly the negative affective, cognitive, and behavioral components and consequences of procrastination (Steel, 2007).

As soon as research began to substantiate the age-old wisdom that procrastination is bad, researchers began to explore why people procrastinate in some instances and not in others. Predictably, task aversion was shown to be a big factor in whether or not a person procrastinates; if a task is tedious, boring, etc., people were more apt to delay starting it (Ferrari & Scher, 2000). Motivation is also a big factor: for many people, lack of extrinsic motivation and/or intrinsic motivation to do an aversive task correlated with dawdling (Brownlow & Reasinger, 2000; Senecal, Koestner, & Vallerand, 1995), though intrinsic motivation seems to be the more important factor (Senecal, Koestner, & Vallerand, 1995). Interestingly, procrastination rates appear to be much higher among students, with a procrastination rate at around 70% (Knaus, 1973), than among adults, who normally procrastinate about 20% of the time (Harriot & Ferrari, 1996). Differences were also found in the type of work adults did and procrastination rates; namely, a white-collar worker is more likely to procrastinate than a blue-collar worker (Hammer & Ferrari, 2002). One should note, however, that many of these procrastination rates rely heavily upon self-report. These results may reflect true differences in procrastination rates or cultural differences that may allow certain people to report procrastination and discourage others from doing the same.

While all people procrastinate every once in a while (Knaus, 1973), some people procrastinate most of the time (Ferrari, 1991). These chronic procrastinators often differ from others in many respects. Chronic procrastinators have been found to be low in conscientiousness (Schouwenburg & Lay, 1995; Scher & Osterman, 2002), which helps to explain the lack of foresight. These people also place much importance upon others and others opinions for evaluation of self-worth (Ferrari, 1994). Similarly, those who show a propensity to avoid situations which would evaluate their identity and worth (such as a test or term paper) are much more likely to procrastinate than those who actively seek out self-awareness and knowledge (Ferrari, et al., 1995). Also, people who display beliefs that events and outcomes are beyond their control show higher levels of procrastination than people who feel more in control of their own lives (Janssen & Carton, 1999).

Benefits of Behavioral Procrastination

Procrastination is not without its benefits, however, especially in the short term. As discussed above, Tice and Baumeister (1997) found that procrastinators initially had better health and lower stress levels than nonprocrastinators. Those who went to work on their assignments right away were faced immediately with the stress of the assignment. In light of Sirois, Melia-Gordon, and Pychyl (2003), procrastinators also had the benefit of enjoying initial 'good health,' even though that better health was simply a function of diagnosis: people who went to the doctor earlier found out about their health problems sooner. Of course, in the end, this initially worse 'bill of health' leads to better outcomes, since doctors can treat problems earlier on in their development.

Another way in which procrastination can lead to some positive outcomes is as a protector of self-esteem. A sizable number of people use procrastination as a self-defeating behavior (Ferrari, 1994) when faced with self-diagnostic tasks (Ferrari et al., 1995) such as a doctor's visit or a final paper. Self-handicapping strategies are defined as "any action or choice of performance setting that enhances the opportunity to externalize (or excuse) failure..." (Jones & Berglas, 1978, pg 85). Self-defeating behaviors are studied mostly by using measures such as the Self Handicapping Scale (Rhodewalt, 1990), which focuses on how people prepare for diagnostic tasks as well as to what they attribute their successes and failures. When a person is faced with a challenging task or a strong probability of inadequate performance, some people tend to erect obstacles so that when they do fail they can blame the obstacle and not their lack of ability. For example, a student who goes out and drinks the night before a hard test can blame less than satisfactory results on being hung-over and/or tired as opposed to simply not being smart enough to score well on the test. This allows the person to avoid the negative impact failure has upon self-esteem (Feick & Rhodewalt, 1997) as well as a sense of shame at their lack of ability (Fee & Tangney, 2000). In this way, though still leading to negative outcomes, procrastination can initially mitigate consequences. People should note, however, that, much like the initial lower levels of stress that's positive effects are mitigated by later high levels of stress, this self-esteem protecting aspect of procrastination works only on a very instance-specific scale. Overall, people who procrastinate still have lower global self-esteem than nonprocrastinators (Ferrari, 1994; Beswick, Rothblum, & Mann, 1988).

Studying Procrastination

Most procrastination research is done using surveys. A variety of measures have been produced in recent years, the most notable being the General Behavioral Procrastination Scale (GP; Lay, 1986) and the Procrastination Assessment Scale – Students (PASS; Solomon & Rothblum, 1984). Other scales have been created that look specifically at certain populations, such as adults as opposed to students (e.g., Ferrari, 1994), or specific types of procrastination like the Decisional Procrastination Scale (DPS; Mann, 1982). The GP and PASS, however, are the most commonly used. Studies have supported their utility (e.g., Tice & Baumeister, 1997) by showing how highly correlated they are with observed procrastination, such as how long it took students to turn in a term paper, fill out a survey, etc..

As seen by the frequent appearance of the PASS in literature, most research is conducted with undergraduate students, more specifically, psychology students. This emphasis on students comes from two factors: first, simple logistics. Students are a much easier population for researchers to study than others. Secondly, as stated above, students have a much higher level of procrastination than other populations, making them an ideal population to study. Procrastination research in American society as a whole is uncommon and procrastination studies on minority populations are almost nonexistent. Procrastination scales generally do not differentiate between different procrastinatory activities; their main goals are to establish *who* procrastinates, not *how* they procrastinate.

Along with simple surveys, some studies also include a time component in their method. For example, Beswick, Rothblum, and Mann (1988) gave undergraduate psychology students assignments to turn in an outline of a term paper and the actual term paper. Each assignment had a due date. The time each assignment was handed in by the

students was recorded. Interestingly, the date the outline was handed in correlated with the grade on that assignment; however, a similar connection was not found for the date the actual paper was turned in and its grade. This disconnect seems to point to particular design flaws of this type of study: the researchers are often measuring the day students *turn in* the assignment, not the day a student *does* it. As shown in this study, most students turn in assignments the day they are due (in this case, 88% for the outline, 79% for the term paper). Only 11% of students turned in the outline early and only 15% turned in the paper early. Very few students handed in their assignments after the due date (2% and 6%, respectively). It is possible that people are doing the assignment early but are simply waiting to turn it in until the due date, a plausible scenario which is not controlled for in this experiment. Many studies that use a time component as a variable run into similar problems. To get around this issue, some studies that use a time component rely on daily logs (e.g., Ferrari & Scher, 2000) rather than due dates to track procrastination. While some researchers have found it important to include a time component in their research, established surveys such as the PASS and GP show such a strong correlation between the survey and the observed behavior that it is not essential to all study designs.

Procrastination research has garnered more and more interest over the past few decades. Many aspects of this topic, however, remain overlooked or unexplored, leaving this subject a perfect candidate for further study. In particular, researchers have rarely attended to the types of activities with which the participant procrastinates. While one might argue that any form of procrastination will lead to the same consequences, different types of behavior often seem to lead to different outcomes in other domains. Thus, I

sought to examine whether social vs. nonsocial procrastinatory activities were associated with the same academic and affective experiences. To support this conjecture, I turn now to contemporary social theory.

Social Needs

For the last 50 years, the benefits of socializing have been well documented. Emotional support from social networks alleviates stress (Delongis, Folkman, & Lazarus, 1988) and is correlated positively with better overall health (Reis, Wheeler, Kernis, Spiegel, & Nezlek, 1985) and immunity (Cohen et al., 2003). Feelings of belonging were shown to correlate with college academic performance, adjustment, and quality of experience (Ostrove & Long, 2007). Allport (1954) theorized that socializing is an evolved behavior; those who preferred groups had a better chance of survival than those who lived on their own. People who make and preserve attachments have better access to mating partners, caregivers in case of sickness or injury, food and other shareable resources, etc. (Bowlby, 1973).

The positive effects of leading a social life have been attributed to both the increased availability of resources (Bowlby, 1973) and the effects socialization has on buffering the negative effects of stress (Cohen & Wills, 1985). Many earlier theorists believed that people have a natural social drive, something Baumeister and Leary (1995) have consolidated in their *social belonging theory*. This theory posits that humans have a basic need to belong, that the drive for "…frequent personal…interactions" is "…almost as compelling a need as for food." Certainly, people go to great lengths to preserve relationships. Guilt is often used as a tool to help maintain interpersonal relationships; Vangelisti, Daly and Rudnick (1991) found that the majority of times that participants

made another feel guilty they brought up lack of relationship maintenance by the other party. Even when people move away from each other and there is no substantial reason to believe they will see each other again (such as former neighbors), friends often exert enormous effort to preserve especially satisfying relationships, including cross-country phone calls, letters, Christmas cards, etc. (Baumeister & Leary, 1995). The recent explosion of social networking sites such as Myspace and Facebook is another example of this. Similar to the attachment-maintenance experience of guilt, people also experience a large amount of jealousy when a relationship is threatened (Reiss, 1986). This feeling is largely universal and is exhibited in nearly all cultures (Reiss, 1986). Just as people will expend large amounts of energy to keep friendships, unhealthy and unpleasant relationships are more likely to simply change rather than be terminated. For example, divorcees' attachment to one another rarely ends; they simply take on another form (Vaughan, 1986; Weiss, 1979). Certainly, research has established the relative universality of personal distress at the complete loss of a relationship (Hazan & Shaver, 1994).

As predicted by belonging theory, the absence of meaningful relationships in a person's life has strong negative effects. The loss of personal attachments and social exclusion have been shown to cause anxiety (Mathes, Adams, & Davies, 1985; Baumeister & Tice, 1990) and lead to self-defeating behaviors (Twenge, Catanese & Baumeister, 2002), such as binge drinking, procrastination, unsafe sex, and other risky activities that have little hope of a positive outcome. People who experience rejection tend to act more aggressively than others towards a perceived slight (Twenge, Stucke, Baumeister & Tice, 2001). When presented with possible future social exclusion,

participants scored lower on GRE tests than those who did not face rejection, indicating that anticipated loneliness interrupts cognitive processes (Baumeister, Twenge & Nuss, 2002). Certainly, people who feel alone and/or excluded experience negative effects more severe than simply feeling 'bad.'

Researchers have moved from simply proving social support is good and social exclusion bad and are trying to better understand exactly what 'social support' means. Reis et al. (1985) identified three aspects of social support: quantity, quality, and social disposition. Social disposition was used as a blanket term to describe traits that affect socialization, such as looks, self-esteem, irritability, social skills, etc. These researchers found that, for females especially, quality of relationships was the main predictor of better health. In another study, lonely people reported having the same number of friends as other people, but also indicated a lower level of intimacy within those friendships (Williams & Solano, 1983). Certainly, when asked, people have been shown to express more desire for quality relationships as opposed to a large number of social bonds (Caldwell & Peplau, 1982). Building on this research, current measures of social support such as the Social Support Questionnaire (SSQ; Sarason et al., 1987) and the Quality of Relationships questionnaire (QRI; Pierce, Sarason & Sarason, 1991) take into account the number of friends, family, etc., but focus predominantly on the quality of these relationships.

Social Support and Procrastination

Despite the everyday occurrence of procrastination and humans' basic need for social support, very little research has been done linking the two. Most links between procrastination and the social world are indirect, such as Twenge, Catanese and

Baumeister's (2002) finding that lack of social support leads to self-defeating behavior. Since procrastination is a type of self-handicapping behavior, the researchers explicitly state that procrastination is a likely consequence of a dearth of fulfilling relationships. No direct measurement that positively correlates the two was used, and the correlation is indirect.

Ferrari, Harriott, and Zimmerman (1997) conducted one of the few studies directly on these two topics. In this investigation, participants were given measures of social support, social desirability, social conflict, and procrastination. Procrastinators were shown to have more conflict in their interpersonal relationships. Social desirability and the size of the social network did not seem to relate to procrastination. Participants, however, who showed higher amounts of procrastination had more emotional support from their friends as opposed to their family. Ferrari, Harriott, and Zimmerman (1997) conducted another study meant to examine parent and best-friend constellations and how they affect procrastination. Less depth and higher amounts of conflict with one's parents and same-sex best friend positively correlated with higher amounts of procrastination. This research suggests that procrastination has a disrupting effect when dealing with very close relationships, though it does not seem to have the same detrimental effect on overall social network outside of the family. Despite these interesting findings, no further research has been done investigating procrastination and social support.

Current Research

The procrastination literature is very limited in its discussion of social phenomena. What little research there is has not been replicated to establish the soundness or generalizability of data. This small body of literature only looks at overall

social support and family dynamics but does not address how different procrastination methods might lead to different outcomes. Based on the positive effects of socializing, there is reason to believe that procrastination may lead to fewer consequences if practiced socially, i.e., going out with friends as opposed to surfing the internet alone. In light of belonging and attachment theories, we wish to investigate these possible differences and propose the following three hypothesis:

1. People who engage in social forms of procrastination will have a more positive affect during and after the social activity than if they procrastinate using a non-social activity.

2. People who engage in social forms of procrastination will feel more satisfied with their academic outcomes than those who engage in nonsocial forms of procrastination.

The following hypothesis was derived from anecdotal evidence. When discussing time spent socially with friends, we decided that using only two conditions, social vs. nonsocial, might obscure important variations in social procrastination. Specifically, we speculated that being invited to do a social activity that leads one to procrastinate might be a very different experience than initiating an invitation in terms of planning, time commitment, which friends are present, etc. From this, we arrive at hypothesis 3:

3. People will experience affective and/or academic differences depending on whether they engage in invited vs. sought-out social procrastinatory activities.

If, as we believed, declining social invitations might be challenging for participants with less well-developed social networks, then inquiring directly about the quality of social networks is key. The following two hypotheses are based on the belief that building reliable social support networks takes time (Baumeister & Leary, 1995), and so presumably seniors would have a more supportive college social support system than freshman.

   4. First years receive less positive affective and academic outcomes when procrastinating socially than seniors.

   5. First years find it harder to turn down social invitations than Seniors.

<div align="center">Methods</div>

Participants

Participants were 127 Macalester undergraduate students (88 females and 39 males), ranging in age from 18 to 22. Eleven students (8 females and 3 males) did not fully fill out the questionnaire, and so their data were excluded from all analyses. Of those providing data, 61 participants were first years, 26 were second years, 14 were third years, and 11 were seniors.

Measures

All measures are attached in the appendix. Procrastinators and nonprocrastinators were differentiated using the General Procrastination Scale (GP; Lay, 1986). The GP measures the severity of procrastination using a 5 point scale with 1=false of me and 5=true of me. This measure has a Cronbach's alpha of .85. The GP correlates strongly

with the Personal Projects Analysis Questionnaire, suggesting that this scale has convergent validity (Lay, 1986).

Social support and satisfaction were measured by two scales: the Social Support Questionnaire Short Form (SSQSF; Sarason et al., 1987) and the Quality of Relationships questionnaire (QRI; Pierce, Sarason & Sarason, 1991). The SSQSF asks participants to respond to six items (e.g., "Whom can you really count on to be dependable when you need help?") by listing up to nine people whom the participant can count on in the manner described. Participants are also asked to rate their satisfaction, on a six point scale, with their answers for each of the six items. In past research (Sarason et al., 1987), this survey correlated negatively with the MAACL anxiety scale and Beck Depression questionnaire. It also correlated positively with the Perceived Social Support survey, giving the SSQSF convergent validity. The SSQ was shown to have test-retest reliability after a 4 week period of .90. Internal reliability was high, with a Cronbach's alpha of .97 (Sarason et al., 1987).

The QRI is a 25-item questionnaire that asks participants to rate on a 4 point scale (1="Not at all" to 4="Very Much") how much the individual question (e.g., "To what extent could you turn to this person for advice about problems?") describes the participant's relationship to a certain person. For this study, however, we asked participants to consider their closest group of friends instead of an individual person. We made this change in order to get a fuller sense of the participant's social network. With an average Cronbach's alpha of .86, internal reliability of the QRI is acceptable. The QRI was compared to loneliness scales and was negatively correlated, suggesting that the QRI has convergent validity (Pierce, Sarason & Sarason, 1991).

Finally, participants were asked free-response questions designed to help them accurately recall specific instances in which they procrastinated using invited social activities, sought-out social activities, and solitary activities (e.g., "What was the procrastinated task you were supposed to be doing?", "What activity did you engage in to procrastinate?"). Research has indicated that asking people about their affective experiences after the fact is problematic, and so we hoped to mitigate this problem by rooting their recall in specific as opposed to global observations. Participants were then asked to describe how they felt during and after their procrastination. On a 5 point scale, participants were asked to rate their ultimate satisfaction with their performance on the procrastinated activity and how they felt their procrastination impacted their performance on a 5 point scale ranging from 1="Had a very negative impact" to 5="Had a very positive impact". Participants were also asked their age, gender, and year in school.

Procedure

Participants took the survey online. From initial data collection, which included 87 participants, the researchers compiled a list of free-answer responses to questions regarding the invited social, sought out social, and non-social conditions. Data were clustered into ten meaningful categories, including: positive – general, positive – task/activity, positive – anxiety, neutral, negative – general, negative – task/activity, negative – anxiety, negative – self, energy level, and miscellaneous. Positive – general included such responses as "good" or "awesome". Responses such as "the movie was really fun!" or "it felt so good to hang out with my friends" were coded into positive – task/activity. Positive – anxiety was for responses such as "I felt relaxed about it" or "I knew I would have enough time to finish my assignment." The neutral category was for

answers such as "I felt ambivalent" or "I didn't really feel a particular way." Negative –

general responses were along the lines of "I felt bad" or "I felt depressed." Negative –

activity/task was for answers such as "surfing the net was boring," while negative –

anxiety was for responses such as "I couldn't enjoy the movie because I was worried

about getting my work done." Positive – self was not included because nobody reported

positive feelings specific to themselves, whereas many people reported feelings that were

negative towards themselves, such as "I was mad at myself for wasting time" (coded into

the negative – self category). Energy level was for people who reported feeling "tired" or

"sleepy". These categories were applied to subsequent data. Participants' responses were

allowed multiple tallies if they fit within multiple categories. For example, "I felt

generally good but also worried about my homework" received a mark for both positive –

general and negative – anxiety. While ideally these categorizations would have been

confirmed by a second judge, time did not permit us to establish inter-rater reliability.

Results

We first tested for gender effects and, consistent with past literature, found no

differences. Therefore all analyses combine male and female participants. In general,

people reported feeling a variety of ways across the three conditions in the free-response

portion. Refer to Tables 1 through 6 for general frequency of affective responses across

conditions and to Table 7 for cluster frequency information of these data. General

responses, such as "I felt good", "I felt bad," "I felt awesome", "I felt terrible", etc. were

the most common. Positive feelings about the procrastinatory activity were also often

reported, such as "I was really entertained" or "I had a lot of fun with my friends."

Negative feelings towards the self, however, were also unfortunately high, especially

after the procrastinatory activity had occurred. People reported feeling "ashamed" of themselves, "wasteful", "irresponsible", etc. Another common response involved feelings of anxiety, with people saying they felt "antsy about getting work done", "worried", "concerned", etc. Other less common answers were those that indicated the participant was "tired", "bored" by the procrastinatory activity, or that they "didn't feel any particular way."

My first hypothesis was that engaging in social forms of procrastination would be associated with more positive affect during and after the activity than nonsocial methods. This hypothesis was largely supported, with some qualifications. Refer to Table 7 for frequency percentages and Tables 8-12 for significant comparison information. To determine significance, Cochran's Q was run comparing all conditions. Cochran's Q is used to analyze intra-subject dichotomous categorical data. The positive – general category encompasses almost all of the significant relationships. During the activity, non-social general positive feelings were reported 35.3% of the time. For both social conditions, however, people reported feeling generally better much more often during the activity, at 56.9% in the sought-out social condition and 50.0% in the invited-social condition, $Q(116)=11.79$, $p<.01$ and $Q(116)=6.42$, $p<.01$, respectively for comparisons with the nonsocial activity. A similar trend held up after the procrastinatory activity, with 13.8% of people reported feeling generally positive after the non-social activity, 27.6% $(Q(116)=7.53$, $p<.01)$ after the sought-out social activity, and 26.7% after the invited social activity. Sought-out social during was significantly different from both the invited social condition and non-social condition in terms of negative comments about the activity $(Q(116)=9.00$, $p<.01$ and $Q(116)=4.00$, $p<.05)$, with participants in the sought-

out social condition not saying any negative things about the activity they were engaged in. This significant relationship held up in the after condition for non-social as well $(Q(116)=4.50, p<.05)$, but not for invited-social. In fact, no difference was found between sought-out social and invited-social conditions in terms of affect after the activity. After the procrastination participants also reported significantly higher levels of anxiety in the non-social condition (37.1%) as opposed to the sought-out social setting (26.7%), $Q(116)=4.26, p<.05$.

Differences within the same category at different times (during vs. after the activity) were found in almost all conditions. For most positive categories (i.e., positive – general, positive – anxiety, etc.), people felt better during the procrastinatory activity as opposed to after. On the negative side of things, however, the story is a bit more complicated. Only the negative – anxiety and negative – self categories revealed potential differences as a function of time. This relationship, however, held across all three conditions, and is in the expected direction (people reported feeling negatively less often during the activity than after).

Though free-response affect did not correlate overmuch with differences in outcomes in the three conditions, there were 22 significant correlations between free-answer responses and measures of social support, as seen in Table 13. Across all three conditions, free-answer responses about how people felt *during* the procrastinatory activity correlated less strongly than how people felt *after*, though this finding was the most striking in the invited-social condition. Only one correlation was found in the during invited social condition and six were found in after invited social conditions. Overall, the sought-out social condition showed far fewer correlations than either of the

other two conditions. SSQ People, the measure that asks people to report how many friends/family members they can rely on in various ways, correlated six times in the nonsocial condition, far more than any other social measure. This relationship generally showed that the more friends the participant had, the better they felt. QRI Depth and QRI Conflict showed significant correlations in all three conditions, leading us to believe that both depth in the participants' relationships and how much conflict they have in their social support networks are associated with how they feel when they procrastinate, even if they procrastinate non-socially.

Hypothesis 2 posited that people who engaged in social forms of procrastination would have better academic outcomes. This hypothesis, however, was not supported. How people predominately procrastinate was not associated with how they feel generally about their grades; in other words, irrespective of whether they procrastinated more using nonsocial or social means, their academic outcomes were the same overall. However, how the participants normally procrastinated (social vs. nonsocial) negatively correlated with almost all measures of social support (QRI Support $r(110)= -.237$, $p<.012$; QRI Depth $r(112)= -.221$, $p<.018$; SSQ People $r(114)= -.186$, $p<.046$; SSQ Satisfaction $r(114)= -.197$, $p<.034$). No correlation emerged from the QRI Conflict scale. This means that people who were more apt to procrastinate socially had better social support networks overall.

While participants' overall academics did not depend on how they predominately chose to procrastination, academic success across the three specific conditions did vary along with General Procrastination scores. The General Procrastination Scale, or how *much* a person generally procrastinates, correlated negatively with both invited social and

non-social academic outcomes (ISA8: r(112)= -.258, p<.006; ISA7: r(113)= -.370,

p<.001; NSA6: r(112)= -.279, p<.003; NSA7: r(112)= -.317, p<.001). This means that,

for invited social and non-social procrastinatory activities, the more the participant was a

chronic procrastinator, the less likely they were to report positive outcomes on their

academic work. This trend, however, did not hold for the sought out social condition.

Interestingly, the amount a person procrastinates overall did not correlate significantly

with any social support measure.

While chronic procrastination levels correlated significantly with academic

performance in only invited social and non-social conditions, QRI Conflict was found to

be somewhat determinate of academic outcomes in all settings. QRI Conflict correlated

negatively with how people felt about their performance in the invited social (r(111)= -

.301, p<.001) and non-social conditions (r(110)= -.205, p<.03) as well how people

actually performed in the sought-out social setting (r(111)= .272, p<.004). Even when

people were procrastinating by themselves, the conflict within their social networks

played some role in how they achieved academically. In terms of other social factors that

played some part in performance, QRI Depth correlated negatively with academic

outcomes in the non-social condition (r(113)= -.307, p<.001). No other significant

correlations, however, were found.

Hypothesis 3 said that people will experience different outcomes with respect to

both affect and academic outcomes depending on whether or not they initiate social

events or are invited to social events. This hypothesis received mixed support. In terms

of academic outcomes, there was a difference, but affective experience was essentially

the same. People's satisfaction with their academic performance varied as a function of

how they chose to procrastinate, $F(2,116)= 3.98$, $p=.02$. Pairwise comparisons revealed that the sought-out social condition differed from the other two conditions. Sought-out social had the highest mean ($x=3.5$, SD= 1.06), meaning people felt the most satisfied with their academic outcomes in this condition, compared to the non-social ($x=3.25$, SD=1.15) and invited-social procrastinatory activities ($x=3.21$, SD=1.08). Interestingly, no significant relationship was found for how people *thought* their procrastination affected their grade in each condition, $F(2,115)= .593$, $p=.61$. In other words, people did not believe how they procrastinated made a difference in their academic outcomes. This is interesting because, as shown above, how they ultimately performed actually did depend on how they procrastinated, indicating that people's perceptions of actual outcomes are skewed. Consistent with literature on the subject of academic performance and procrastination, participants generally felt that procrastination negatively affected their performance across all conditions, with means for non-social, sought-out social, and invited social at 2.53, 2.57, and 2.48, respectively (SD= .09, SD= .07, SD=.06. respectively).

Hypothesis 4, stating that first years were expected to have poorer academic and affective consequences than seniors, was not supported. Both age and year in school did not correlate with any academic outcome, either on specific assignments or more globally, so there was no significant difference between upperclassmen's and underclassmen's outcomes when socially procrastinating.

In Hypothesis 5, we posited that first years would find it harder to turn down social invitations than fourth years. This hypothesis was also not supported. No correlation was found between school year, age, and how comfortable people felt turning

down social invitations. This hypothesis was based on the assumption that participants' social networks would be positively correlated with year in school. In fact, the QRI Support and QRI Depth questionnaires *negatively* correlated with year in school ($r(109)= -.188$, $p<.048$; $r(111)= -.199$, $p<.034$; respectively), suggesting the exact opposite: upperclassmen reported having *worse* social support than underclassmen. Year in school did not correlate with the SSQ People or SSQ Satisfaction.

Though no correlation was found between year in college and ability to turn down invitation, how comfortable people felt turning down social invitations was negatively correlated with the QRI Conflict ($r(111)= -.241$, $p<.01$). This meant that people who felt more comfortable turning down a social invitation had a lower amount of conflict with their friends. In another interesting twist on this phenomenon, age itself did not correlate with any of these measures, including QRI Depth, even though age is highly correlated with year in college ($r(111)= .876$, $p<.001$).

Discussion

This investigation primarily wanted to establish that procrastinatory activities were not homogenous in terms of the affective experience as well as their academic outcomes. For affective experience, support for a social vs. nonsocial distinction in procrastinatory activities was mixed. People generally reported feeling more positive if they procrastinated socially, both during and after the activity. This is congruent with literature on socializing, where it is generally believed that people who socialize feel better. Interestingly, however, people did not actually report enjoying social procrastinatory behaviors more than nonsocial ones. This perhaps points to a distinction between *enjoying* an activity and *benefiting* from an activity. If non-social activities were

just as fun, entertaining, etc. as the social activities, then something else besides simple

pleasure mediates the more general positive affect. Certainly, the higher reports of

negative affect have something to do with this: sought-out social procrastination elicited

fewer negative comments, especially when compared with the non-social activity. There

could, however, be another mediating effect. Some hints about this can be found in

individual participants' responses. For example, in the social conditions, several people

wrote about how important it was to maintain relationships, with one person saying they

felt "good because I think friends are more important than homework." A few also stated

that by accepting or initiating these invitations they had accomplished looking after these

essential ties. No similar feeling was reported in the non-social condition (i.e., no one

said they felt a sense of accomplishment when they watched TV). Perhaps the

experience of doing something "worthwhile" in the social condition helped people feel

better in a general sort of way

On the negative side of things, support was mixed for the social vs. nonsocial

distinction. Four significant correlations were found, three in the negative-activity

cluster. While somewhat obvious when considering the preceding paragraph, people felt

not only more positive about social activities, they also felt less negative. Interestingly,

the only other significant comparison was between non-social and sought-out social on

reports of negative anxiety *after* the activity, with participants reporting more negative

feelings. During the activity, no differences in anxiety were found. This lends us to

believe that something about seeking out social activity mitigates the initial stress.

Perhaps we can see this in the light of Shelley Taylor's (2000) 'tend and befriend' theory

of anxiety. People who *seek out* others are actively trying to reduce their stress levels. By

hanging out with friends as stress gets high, the participants seemed to have gained some ground against the slippery slope of stress and anxiety. It is interesting, however, that a similar phenomenon cannot be found in the invited social condition. All in all, in terms of the distinction between social vs. nonsocial affect, perhaps the relevant distinctions lie in the emotional benefits one can reap from different types of procrastination as opposed to what consequences they can cause.

Procrastination did demonstrate a delayed effect, as expected, in positive affect categories. In other words, people felt better during the activity than after. For positive affect, the time relationships for before and after are simple: people feel better during the pleasurable activity and feel not as well after. For example, 35.3 % of participants in the non-social condition reported feeling generally good during the activity while only 13.8% reported the same thing after the activity was over. See Table 7 for all related percentage information. For the negative emotion clusters, people generally reported more negative affect after the activity as opposed to during. Again, refer to Table 7 for these percentages, as well as Tables 8-12 for significance.

Once again, however, the story is a bit more complicated in terms of negative affect. Most, but not all, self-report frequencies were in the correct direction (more negative affect reported after rather than during). Negative – general and negative – activity clusters were significant only about half of the time. Negative – anxiety and negative – self, however, showed elevations after the procrastination relative to during in all conditions. The appearance of increased anxiety after the activity was over is consistent with Tice and Baumeister's (1997) assertion that procrastinators trade in short-term benefits for long-term costs.

The comparison between during and after for negative – self, however, is a very interesting one. Feeling bad about the self was more pronounced after, compared to during, procrastination in all three conditions. In terms of the cycle of self-esteem and procrastination, the data certainly support a model where procrastination leads to lower self-esteem, regardless of the type of procrastination in which a person engages. That does not, however, rule out the possibility that low self-esteem led to procrastination in the first place, but rather confirms the complicated nature of this relationship by supporting Owens and Newbegin's (1997) findings that procrastination can also cause low self-esteem. Our findings support the reciprocal dynamic procrastination and self-esteem, and which one causes the other seems equivalent to wondering what comes first, the chicken or the egg.

While the positive affect data show signs that a social vs. nonsocial distinction is important, general academic satisfaction and how a person usually procrastinates tell a slightly different story. No significant relationship was found between whether or not a person predominately procrastinates using social vs. nonsocial means and how they felt about their overall grade performance. In this case, procrastination style in a global sense seemed to have no effect on academics. This may be, however, because the question lumped invited social and sought-out social into one big category. Our results, of course, have indicated that there is an important academic difference between the two, though affective differences may be negligible. Future studies might ask about frequency of the three forms of procrastination as three separate dimensions rather than a single continuum.

Separating procrastinatory experiences into invited social and sought-out social experiences was supported by the majority of our findings, especially in terms of academics. When asked about how they did on specific assignments depending on how they procrastinated, participants reported doing better in the sought-out social condition. When comparing non-social and invited social, students reported doing about the same. Similarly, the more a person was a chronic procrastinator, the worse they did in the invited social and non-social conditions. When the chronic procrastinator, however, initiated social interaction, they largely avoided hurting their grades. This raises some interesting questions: why is it that people did better when they initiated social interactions? Comparably, why do invited social activities lead to similar academic outcomes but have basically the same positive affective benefits as sought-out social procrastination?

For the positive effects seeking out social interaction has upon academics, we can theorize about many logistical differences which may lead to this outcome. Initiating time with friends takes some planning, almost certainly more so than turning on one's TV, showing up at a pre-planned event, or passively accepting a social invitation. Dysfunctional procrastination, by definition, requires some element of the unintended: people who procrastinate don't plan to procrastinate the second they receive their task. For most people, they fully mean to get their work done in a timely fashion. In the moment, however, just as they go to their computers or books or whatever, competing interests lead them to take an unplanned detour. For the sought-out social condition in our investigation, it may be that this extra step of planning causes this phenomenon to be something more like taking a study break as opposed to actual procrastination. Also, the

people who plan have, presumably, more control over when, how, and with whom they socialize. This element of when might be especially important: people may initiate social events when they have come to a natural stopping point in their work rather than being interrupted by someone else's timetable.

The above conjectures beg the question: is seeking out friends when one maybe should be doing work actually procrastination? Our data suggest that, despite better academic outcomes, it still is. First of all, we asked people to describe situations in which they procrastinated, prompting them to choose situations they believe they procrastinated in. By their own definition, our participants were procrastinating. Secondly, despite evidence to the contrary, people felt like their procrastination across all three conditions had a similar detrimental effect. In other words, no difference was found in how they *thought* the sought-out social affected their performance. This impact upon performance was believed by participants to be negative, as past procrastination research predicts it should be. Thirdly, in terms of emotion, sought-out social activities showed the predicted relationships, especially when considering the negative side. People felt more stress after the activity, regardless of which condition they were reporting. This is consistent with past procrastination research, where putting off work leads to anxiety. Similarly, sought-out social procrastination was associated with a drop in self-esteem, an occurrence which held across all other conditions. When considering differences in positive affect, it is true that sought-out social had more emotional benefits than nonsocial procrastination. This was shared, however, with the invited social condition, leading us to believe that the affective difference was because of the social component, not because sought-out social is less procrastinatory than the other two conditions.

Though something different is going on in terms of academics in the sought-out social condition, we can still be fairly confident that it is procrastination, rather than simply taking a break.

The measures of social support also show interesting relationships within the three settings. Interestingly, more correlations were found in the invited social and non-social condition than in the sought-out social condition. This means that, even if people procrastinated non-socially, their social support networks affected them more in the nonsocial and invited social setting than the sought-out social condition. Perhaps this is because, when people did the inviting, they had more control over their social world in that specific activity, meaning that overall themes, especially negative ones, were largely mitigated. This is supported by the fact that both the QRI and SSQ deal with global social support, not social support in specific instances. Another confounding finding is that the SSQ People played such a large role in non-social affect, with *six* correlations. This measure only correlates two more times in any of the other conditions. We are somewhat confounded by why the number of people who support you would make such a significant impact.

One place where social support measures had a more predictable effect is when correlating the QRI conflict scale and academic performance in all three conditions. For all types of procrastinatory activities, more conflict in the participants' support group was associated with worse grades. For both social conditions, this seems to be an obvious relationship: people who experience more conflict with friends would presumably receive fewer benefits from hanging out with them. It is interesting, however, that QRI Conflict also correlated with academics in the non-social condition. While having a less direct

relationship, this is not necessarily at odds with current literature. People with more conflict in their relationships have worse health etc., so why not worse grades?

While our categorization of social and nonsocial procrastination as well as our distinction between sought-out social and invited social were supported by much of our data, our theories about year in school, affect, academics, and comfort turning down social invitations were largely unsubstantiated. We believed that upperclassmen would have more supportive social networks, simply because first years were still in the process of creating friendships whereas seniors would presumably have them already established. Surprisingly, this was not supported. It was actually first years who had the more supportive social network. This is a somewhat confounding finding. It could be that first years were still in the I-just-met-a-million-people-and-they-will-all-be-my-best-friend glow, whereas seniors, presumably, had come to learn the hard truth that very few people are, in fact, true friends. This remarkable finding could have also been a problem with our sample: only 11 of our participants were seniors, whereas over 60 were first years, many of them tested in their first semester at college. It is possible, and perhaps even probable since recruiting of older participants relied heavily on social networking, that these 11 seniors were in similar friend groups, and that these groups were experiencing some interpersonal challenges. Also, as the end of college approaches, it may be seniors were beginning to realize that they would soon have to leave many of these friends behind, making them feel adrift and relatively unsupported. These speculations await replication with a larger and more representative sample.

Another interesting result was that year in school did not predict comfort with turning down social invitations. The reasons could be the same as above: perhaps the

small, limited sample of seniors skewed the data. A predictable relationship, however, was found between the QRI Conflict scale and turning down social invitations. People who had more conflict within their social support network had a harder time refusing these social invitations. This makes sense: participants with rockier relationships felt like they couldn't refuse, presumably because this would cause even more friction in their social ties.

Study Limitations

This study was limited in several ways. First of all, it was conducted at a small, private college. Our sample was small and consisted mainly of underclassmen with relatively few upperclassmen. Also, the social circle from which these upperclassmen came from was probably very small, perhaps skewing results. Our method was as well somewhat flawed. Literature indicates that people cannot retrospect in terms of affect, which is exactly what we have asked people to do. We hoped to mitigate this by asking specific questions that really put people in the moment. It is unknown, however, how effective this tactic was. Our measure of affect was created by the researchers and we have no measures of reliability or validity.

Another area in which our research is somewhat limited is in that our coding for affect was not confirmed by a second rater. Time and resources limited us from establishing inter-rater reliability. Also, instead of asking for grades, we asked people how they *felt* about their academic performance. This is, of course, very subjective. The first years in our study, however, would not have received college grades yet while we were collecting our data, making GPA data inaccessible. We also considered that the same grade may be a different achievement for different people: an A- in organic

chemistry might be fantastic for some and a disappointment for others. We wanted to

know how satisfied people were with what they were doing, not what their GPA was.

Grades are also somewhat influenced by intelligence and past academic exposure,

confounding variables we hoped to mitigate by asking how people felt as opposed to

asking for strict numbers.

Future Research

As the findings in this study are largely new, follow-up investigations should be

conducted to establish soundness and generalizability. Certainly, future research should

investigate the distinction between sought-out social and invited social procrastination, in

order to replicate our results as well as expand them. Ideally, researchers would present

participants with daily logs to record their affective experience, mitigating the problem of

retrospective recall. In order to better judge performance, a future study might include

having each participant do the same assignment, therefore better homogenizing academic

outcome variables. To establish the amount of procrastination in such a study, a time

variable should be added where the time a participant completes the assignment or works

on the assignment is recorded. This would control better for the actual amount of

procrastination. Also, it would also be interesting to investigate if similar nonsocial vs.

social distinctions could be found within adult, working populations. The lack of

difference between underclassmen and upperclassmen's social support network is also a

very interesting finding, something which definitely needs further investigation.

Certainly, procrastination is a fertile topic which needs much future research.

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Table 1

Free-Answer Response Frequency During a Non-social Activity

Positive: General		Positive: Activity		Positive: Anxiety		Neutral		Negative: General		Negative: Activity		Negative: Anxiety		Negative: Self/actions		Tired		Other	
Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People
good	16	enjoying	12	relaxed	15	ok	4	depressed	1	bored	4	stressed	4	guilty	7	tired	5	indecisive	1
satisfied	2	engaged	1	calm	2	normal	1	bad	1	distracted	2	anxious	3	annoyed with self	2	sleepy	2	relieved	2
fine	5	amused	1	comfortable	1	neutral	2	upset	1	unstimulated	1	pressed	1	lazy	1			addicted	1
pleased	1	intrigued	1					not good	1	secluded	1	nagging feeling	1	ashamed	1			numb	1
nice	1	productive	5					frustrated	1	thinking about work	2	unmotivated	2					conflict	15
great	4	better than a.	4					lonely	1	loss of time	2	regretful	2					absent-minded	1
wonderful	1	creative	1									hopeless	1						
awesome	3	interested	1									put too much off	1						
happy	4	entertained	1									worried	1						
well	2																		
refreshed	1																		
alright	1																		

Table 2

Free-Answer Response Frequency After a Non-social Activity

Positive: General	# of People	Positive: Activity	# of People	Positive: Anxiety	# of People	Neutral	# of People	Negative: General	# of People	Negative: Activity	# of People	Negative: Anxiety	# of People	Negative: Self/actions	# of People	Tired	# of People	Other	# of People
good	7	focused	1	relaxed	1	ok	3	depressed	2	bored	1	stressed	3	guilty	14	tired	11	pissed off	6
satisfied	2	refreshed	4	calm	1	normal	1	bad	3	distracted	3	anxious	1	lazy	5	sleepy	2	annoyed	3
fine	2	ready	2	at ease	1	neutral	1	upset	1	unproductive	1	worried	1	mad at self	4			weirded out	1
happier	2	rested	3					bummed	1	worse	2	nervous	3	ashamed	3			conflict	10
great	1	alert	1					terrible	1	apathetic	2	dread	1	regretful	1			procrastinated more than intende	2
wonderful	1	time for self good	1					awful	1	stupid	1	apprehensive	1	blame self	1			wanted to procrastinate more	2
awesome	1	able	1									rushed	1	unmotivated	1			should work	1
		relief	1									loss of time	1	unaccomplished	10				
												need to work	1	disappointed in self	2				
												panicked	1						
												pressured	1						
												overwhelmed	1						

Table 3

Free-Answer Response Frequency During a Sought-out Social Activity

Positive: General		Positive: Activity		Positive: Anxiety		Neutral		Negative: General		Negative: Activity		Negative: Anxiety		Negative: Self/actions		Tired		Other	
Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People
good	26	enjoying	12	relaxed	15	ok	3	depressed	1			stressed	3	guilty	6	tired	1	silly	1
satisfied	3	engaged	1	calm	1	alright	1					anxious	11	lazy	1			upright	1
fine	5	amused	1	comfy	1							worried	1	wasteful	1			conflict	1
glad	1	entertained	2	at ease	1							nervous	1					drunk	1
better	1	excited	3									destressed	1						
content	1	taking care of self	2									thinking about work	1						
lively	1	had fun	2									wasted time	2						
great	8	activity was worthwhile	1																
wonderful	1	productive	1																
awesome	1	liberated	1																
happy	14																		
fantastic	1																		
fabulous	1																		
excellent	1																		
amazing	1																		
nice	1																		

Table 4

Free-Answer Response Frequency After a Sought-out Social Activity

Positive: General		Positive: Activity		Positive: Anxiety		Neutral		Negative: General		Negative: Activity		Negative: Anxiety		Negative: Self/actions		Tired		Other	
# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response
8	good	2	focused	2	relaxed	5	unconcerned	1	depressed	2	silly	1	stressed	11	guilty	17	tired	9	hungover
2	satisfied	1	determined			1	ok	1	bad			3	anxious	3	lazy	2	sleepy	1	drunk
7	fine	4	ready					1	upset			4	worried	4	mad at self			1	hungry
2	glad	1	energized					2	bummed			4	nervous	4	regretful			1	drunk
1	content	1	motivated					1	horrible			2	dread	2	irresponsible			1	resigned
1	not bad	1	confident					1	shitty			2	overwhelmed	2	proc not worth it			8	conflict
1	lively	3	priority: friend					1	not so great			1	tense	2	unmotivated			3	should start work
1	great							2	crappy					3	wasted time			1	want to procrastinate more
3	happy													1	concerned				
4	great																		
1	excellent																		
1	well																		
1	refreshed																		

Table 5

Free-Answer Response Frequency During an Invited Social Activity

Positive: General		Positive: Activity		Positive: Anxiety		Neutral		Negative: General		Negative: Activity		Negative: Anxiety		Negative: Self/action		Tired		Other	
# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response
14	good	16	enjoying	10	relaxed	2	ok	2	bad	1	bored	2	stressed	5	guilty	12		1	sociable
2	satisfied	1	engaged	1	calm	3	normal	1	unhappy	2	distracted	4	anxious					1	awkward
11	fine	4	entertained	1	comfortable	1	neutral	1	frustrated	1	preoccupied	3	worried					1	full
1	not bad	3	excited			1	alright	1	annoyed			3	nervous					1	sick
1	relieved	6	had fun									1	concerned					3	conflict
1	great	5	interested									1	tense					3	should do work
16	happy	1	had a blast									1	apprehensive						
2	excellent	1	glad									1	think about work						
1	pretty sweet	1	cathartic									2	rather do work						
1	better											2	antsy						
1	less stressed																		
1	awesome																		
4	not worried																		

Table 6

Free-Answer Response Frequency After an Invited Social Activity

Positive: General		Positive: Activity		Positive: Anxiety		Neutral		Negative: General		Negative: Activity		Negative: Anxiety		Negative: Self/actions		Tired		Other	
Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People	Response	# of People
good	8	focused	1	relaxed	1	normal	3	bad	2			stressed	15	guilty	8	tired	9	mad	1
satisfied	2	determined	1	calm	1	neutral	1	less happy	1			anxious	6	regretful	5	exhausted	1	busy	1
fine	4	ready	1			indifferent	1	sad	2			worried	6	annoyed	1	sleepy	2	drunk	2
glad	6	energized	2					shitty	1			nervous	2	upset at self	2			hungover	2
not too worried	1	productive	1					unhappy	2			apprehensive	1	frustrated	2			loved	1
less stressed	1	refreshed	1					not good	1			overwhelmed	5	unaccomplished	1			sick	1
great	2	work under control	1					depressed	1			wasted time	7					relieved	1
happy	5	relief	1									panicked	1					conflict	10
excellent	1																	need to do work	2
justified	1																		

Table 1

Percentages of people who reported feeling each coded category

Affect	Condition					
	NSA3	NSA4	SSA3	SSA4	ISA3	ISA4
Positive General	35.3	13.8	56.9	27.6	50.0	26.7
Positive Activity	20.7	12.1	20.7	10.3	28.4	6.9
Positive Anxiety	15.5	4.3	14.7	4.3	10.3	3.4
Neutral	6.0	5.2	3.4	0.9	6.0	6.4
Negative General	2.6	8.6	0.9	10.3	4.3	8.6
Negative Activity	7.8	6.0	0.0	0.9	3.4	0.0
Negative Anxiety	13.8	37.1	17.2	26.7	17.2	35.3
Negative Self	11.2	20.7	6.0	23.3	4.3	15.5
Tired	6.0	6.9	0.9	8.6	0.0	10.3

Table 8.

Significant Cochran's Q Values Comparing During Sought-Out Social with During Non-social and Invited Social

Condition	Affect	Pos Gen	Pos Act	Pos Anx	Neutral	Neg Gen	Neg Act	Neg Anx	Neg Self	Tired
					Sought-Out Social During					
	Pos General	Q(116)=11.79**								
	Pos Activity									
Non-	Pos Anxiety									
Social	Neutral									
During	Neg General									
	Neg Activity					Q(116)=9.00**				
	Neg Anxiety									
	Neg Self									
	Tired								Q(116)=4.50*	
	Pos General									
	Pos Activity									
Invited	Pos Anxiety									
Social	Neutral									
During	Neg General							Q(116)=4.00*		
	Neg Activity									
	Neg Anxiety									
	Neg Self									
	Tired									

Table 9.

Significant Cochran's Q Values Comparing After Sought-Out Social with After Non-Social and After Invited Social

Condition	Affect	Sought-Out Social After								
		Pos Gen	Pos Act	Pos Anx	Neutral	Neg Gen	Neg Act	Neg Anx	Neg Self	Tired
Non-Social After	Pos General	Q(116)=7.53**								
	Pos Activity									
	Pos Anxiety									
	Neutral									
	Neg General									
	Neg Activity					Q(116)=4.50*				
	Neg Anxiety						Q(116)=4.26*			
	Neg Self									
	Tired									
Invited Social After	Pos General									
	Pos Activity									
	Pos Anxiety									
	Neutral									
	Neg General									
	Neg Activity									
	Neg Anxiety									
	Neg Self									
	Tired									

Table 10.

Cochran's Q Comparing Non-Social During and After.

Condition	Affect	Non-Social After								
		Pos Gen	Pos Act	Pos Anx	Neutral	Neg Gen	Neg Act	Neg Anx	Neg Self	Tired
	Pos General	Q(116)=18.94**								
	Pos Activity									
	Pos Anxiety			Q(116)=8.05**						
Non-	Neutral									
Social	Neg General					Q(116)=5.44*				
During	Neg Activity									
	Neg Anxiety									
	Neg Self								Q(116)=18.692**	
	Tired									Q(116)=4.17*

Table 11.

Cochran's Q Comparing Sought-Out Social During and After

Condition	Affect	Sought-Out Social After								
		Pos Gen	Pos Act	Pos Anx	Neutral	Neg Gen	Neg Act	Neg Anx	Neg Self	Tired
Sought-Out	Pos General	Q(116)=23.12**								
Social	Pos Activity		Q(116)=4.8*							
During	Pos Anxiety			Q(116)=7.2**						
	Neutral									
	Neg General					Q(116)=11.00**				
	Neg Activity									
	Neg Anxiety							Q(116)=4.172*		
	Neg Self								Q(116)=12.29**	
	Tired									Q(116)=9.00**

Table 12.

Cochran's Q Comparing Invited Social During and After.

Condition	Affect	Pos Gen	Pos Act	Pos Anx	Neutral	Neg Gen	Neg Act	Neg Anx	Neg Self	Tired
						Invited Social After				
Invited Social During	Pos General	Q(116)=16.95**								
	Pos Activity		Q(116)=17.86**							
	Pos Anxiety			Q(116)=4.57*						
	Neutral									
	Neg General									
	Neg Activity						Q(116)=4.00*			
	Neg Anxiety							Q(116)=13.36**		
	Neg Self								Q(116)=8.90**	
	Tired									Q(116)=12.00**

Table 13.

Significant Correlations between Free-Answer Response Frequencies and Social Support Measures

Condition	Affect	Measure				
		QRI Support	QRI Conflict	QRIDepth	SSQPeople	SSQSatisfaction
	Pos General					
	Pos Activity				r(114)=.193*	
	Pos Anxiety					
Non-	Neutral					
Social	Neg General				r(114)=-.205*	
During	Neg Activity				r(114)=-.252**	
	Neg Anxiety					
	Neg Self					
	Tired					r(114)= 183*
	Other					
	Pos General			r(112)=-.186*		
	Pos Activity					
	Pos Anxiety				r(114)=.228**	
Non-	Neutral					
Social	Neg General				r(114)=-.230**	
After	Neg Activity					
	Neg Anxiety		r(111)=.243**			
	Neg Self				r(114)=.20*	
	Tired			r(112)=.192*		
	Other					
	Pos General					
	Pos Activity					
	Pos Anxiety					
Sought-out	Neutral					r(114)=-.187*
Social	Neg General					
During	Neg Activity					
	Neg Anxiety					
	Neg Self					
	Tired			r(112)=-.186*		
	Other					
	Pos General					
	Pos Activity					
	Pos Anxiety					
Sought-out	Neutral					
Social	Neg General		r(111)=.20*			r(114)=-.186*
After	Neg Activity			r(112)=- 186*		
	Neg Anxiety					
	Neg Self					
	Tired					
	Other					
	Pos General					
	Pos Activity					
	Pos Anxiety		r(111)=-.25**			
Invited	Neutral					
Social	Neg General					
During	Neg Activity					
	Neg Anxiety					
	Neg Self					
	Tired					
	Other					
	Pos General					
	Pos Activity					
	Pos Anxiety				r(114)=.210*	
Invited	Neutral					
Social	Neg General	r(110)=- 347*	r(111)=.236**		r(114)=- 312**	
After	Neg Activity					
	Neg Anxiety	r(110)=.256*		r(112)=.215*		
	Neg Self					
	Tired					
	Other					

* p<.05

** p<.01

Social Support Questionnaire (Short Form)
Sarason, I.G., Sarason, B.R., Shearin, E.N., & Pierce, G.R. (1987). A brief measure of
social support: Practical and theoretical implications, *Journal of Social and Personal
Relationships*, 4, 497.

INSTRUCTIONS:

The following questions ask about people in our environment who provide you with help
or support. Each question has two parts. For the first part, indicate the number of people
you know, excluding yourself, whom you can count on for help or support in the manner
described.

For the second part, indicate how <u>satisfied</u> you are with the overall support you have.

If you have had no support for a question, check the words "No one," but still rate your
level of satisfaction.

Please answer all the questions as best you can. All your responses will be kept
confidential.

1) a. How many people can you really count on to be dependable when you need help?
   b. On a scale from 1-6, 1 being very dissatisfied and 6 being very satisfied, how
satisfied are you with part a.?

2) a. How many people can you really count on to help you feel more relaxed when you
are under pressure or are tense?
   b. On a scale from 1-6, 1 being very dissatisfied and 6 being very satisfied, how
satisfied are you with part a.?

3) a. How many people accept you totally, including both your worst and best points?
   b. On a scale from 1-6, 1 being very dissatisfied and 6 being very satisfied, how
satisfied are you with part a.?

4) a. How many people can you really count on to help you feel better when you are
feeling generally down-in-the-dumps?
   b. On a scale from 1-6, 1 being very dissatisfied and 6 being very satisfied, how
satisfied are you with part a.?

5) a. How many people can you count on to console you when you are very upset?
   b. On a scale from 1-6, 1 being very dissatisfied and 6 being very satisfied, how
satisfied are you with part a.?

Quality of Relationships (QRI)
Pierce, G. R., Sarason, I. G., & Sarason, B. R. (1991). General and Relationship-Based
Perceptions of Social Support: Are Two Constructs Better Than One ? *Journal of
Personality and Social Psychology*, 61(8), 1028.

Please use the scale below to describe your relationship with your primary group of friends.

1 = Not at all   2 = A little   3 = Quite a bit   4 = Very Much

1. To what extent could you turn to this group for advice about a problem?
2. How often do you need to work hard to avoid conflict with this group?
3. To what extent could you count on this group for help with a problem?
4. How upset does this group sometimes make you feel?
5. To what extent can you count on this group to give you honest feedback, even if you might not want to hear it?
6. How much does this group make you feel guilty?
7. How much do you have to "give in" to these relationships?
8. To what extent can you count on this group to help you if a family member very close to you died?
9. How much does this group want you to change?
10. How positive a role does this group play in your life?
11. How significant are these relationships in your life?
12. How close will your relationships be with these people in 10 years?
13. How much would you miss this group if you could not see or talk to them for a month?
14. How critical to you is this group?
15. If you wanted to go out and do something this evening, how confident are you that this group would be willing to do something with you?
16. How responsible do you feel for this group's well-being?
17. How much do you depend on this group?
18. To what extent can you count on this group to listen to you when you are very angry at someone else?
19. How much would you like this group to change?
20. How angry does this group make you feel?
21. How much do you argue with this group?
22. To what extend can you really count on this group to distract you from your worries when you feel under stress?
23. How often does this group make you feel angry?
24. How often does this group try to control or influence your life?
25. How much more do you give than you get from these relationships?

Procrastination Survey

For this study, I will ask you to recall, in as much detail as possible, specific times when you procrastinated. For purposes of this study, procrastination is defined as a relatively unplanned activity lasting for **longer than one hour** that delayed work on an academic task. Please be sure to think back on a very particular episode of procrastination rather than relying on generalized impressions. We know that each procrastination situation is unique, and we will learn more about the phenomenon from having rich details about particular instances rather than global and vague impressions.

1) Think back to a specific time in the recent past when you procrastinated an academic task by doing a *completely solitary non-social activity* (i.e. watched TV, napped, read, played computer games, etc.).
    a) What was the procrastinated task you were supposed to be doing?
    b) What activity did you engage in to procrastinate?
    c) How did you feel *during* the non-social activity?
    d) How did you feel *afterwards*?
    e) What did you do after the non-social activity?
    f) On a scale from 1-5, 1 being completely unsatisfied to 5 being completely satisfied, how would you rate your ultimate performance on the academic task?
    g) To what extent do you believe the non-social activity affected your performance on the academic task:
        (1) Had a very negative impact
        (2) Had a somewhat negative impact
        (3) Did not impact
        (4) Had a somewhat positive impact
        (5) Had a very positive impact

2) Think back to a specific time in the recent past when you procrastinated an academic task by actively *seeking out a social activity* (called up a friend, asked someone to watch a movie, etc.).
    a) What was the procrastinated task you were supposed to be doing?
    b) What activity did you engage in to procrastinate?
    c) How did you feel *during* the social activity?
    d) How did you feel *afterwards*?
    e) What did you do after the social activity?
    f) On a scale from 1-5, 1 being completely unsatisfied to 5 being completely satisfied, how would you rate your ultimate performance on the academic task?
    g) To what extent do you believe the social activity affected your performance on the academic task:
        (1) Had a very negative impact
        (2) Had a somewhat negative impact
        (3) Did not impact
        (4) Had a somewhat positive impact
        (5) Had a very positive impact

3) Think back to a specific time in the recent past when you procrastinated an academic task when a *friend invited you to a social activity*.
    a) What was the procrastinated task you were supposed to be doing?

b) What activity did you engage in to procrastinate?
c) How did you feel *during* the social activity?
d) How did you feel *afterwards*?
e) What did you do after the social activity?
f) On a scale from 1-5, 1 being completely uncomfortable to 5 being completely comfortable, how comfortable would you have felt turning down the social invitation?
g) On a scale from 1-5, 1 being completely unsatisfied to 5 being completely satisfied, how would you rate your ultimate performance on the academic task?
h) To what extent do you believe the social activity affected your performance on the academic task:
   (1) Had a very negative impact
   (2) Had a somewhat negative impact
   (3) Did not impact
   (4) Had a somewhat positive impact
   (5) Had a very positive impact

4) Do you predominately procrastinate more frequently using social activities, non-social activities, or both in equal measure?
   i) I exclusively use social activities to procrastinate
   ii) I predominantly use social activities to procrastinate
   iii) I use social and nonsocial activities equally to procrastinate
   iv) I predominantly use nonsocial activities to procrastinate
   v) I exclusively use nonsocial activities to procrastinate

5) On a scale from 1 to 5, 1 being completely unsatisfied to 5 being completely satisfied, how did you feel about your overall academic performance in college?

6) What is your gender?

7) What is your age?

8) What year are you at Macalester?

Procrastination Scale
Lay, 1986

INSTRUCTIONS:

People may use the following statements to describe themselves. For each statement, decide whether the statement is uncharacteristic or characteristic of you using the following 5 point scale. Note that the 3 on the scale is Neutral: the statement is neither characteristic nor uncharacteristic of you.

1 = Extremely Uncharacteristic   2 = Moderately Uncharacteristic   3 = Neutral
4 = Moderately Characteristic   5 = Extremely Characteristic

1) I often find myself performing tasks that I had intended to do days before.
2) I do not do assignments until just before they are to be handed in.
3) When I am finished with a library book, I return it right away regardless of the date it is due.
4) When it is time to get up in the morning, I most often get right out of bed.
5) A letter may sit for days after I write it before mailing it.
6) I generally return phone calls promptly.
7) Even with the jobs that require little else except sitting down and doing them, I find they seldom get done for days.
8) I usually make decisions as soon as possible.
9) I generally delay before starting on work I have to do.
10) I usually have to rush to complete a task on time.
11) When preparing to go out, I am seldom caught having to do something at the last minute.
12) In preparing for some deadline, I often waste time by doing other things.
13) I prefer to leave early for an appointment.
14) I usually start an assignment shortly after it is assigned.
15) I often have a task finished sooner than necessary.
16) I always seem to end up shopping for birthday or Christmas gifts at the last minute.
17) I usually buy even an essential item at the last minute.
18) I usually accomplish all the things I plan to do in a day.
19) I am continually saying "I'll do it tomorrow".
20) I usually take care of all the tasks I have to do before I settle down and relax for the evening.