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American Idle: An Examination of Leisure Guilt, Time Use, and Well-being

DISSERTATION

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for the degree of

DOCTOR OF PHILOSOPHY

in Psychological Science

by

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DEDICATION

To

my beloved parents and Tori,

for their endless love and support

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CONFERENCE PRESENTATIONS

Koo, H. J., Kim, P., Hong, M., Piff, P. K., & Shariff, A. F. (2020). Wasted Work in a Land of (No) Opportunity: The Relation between Perceived Social Mobility and Valuation of Efficiency over Effort, *Annual meeting of the Society for Personality and Social Psychology*, 2020, New Orleans, LA.

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ABSTRACT OF THE DISSERTATION

American Idle: An Examination of Leisure Guilt, Time Use, and Well-being

by

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"We're becoming vacation-phobic" (Lipman, 2018). According to research from the U.S. Travel Association, more than half of residents in the United States did not use all of their vacation days, amounting to 768 million unused vacation days in 2017 (U.S. Travel Association, 2018). A more recent survey showed that only about a quarter (27%) of employees in the United States used all of their paid vacation time last year, and nearly half of them (49%) responded that they worked at least an hour a day during their vacation (Qualtrics, 2022). People are hesitant to take their time off and many report feeling worried and bad about themselves during vacation and have trouble fully 'unplugging' themselves from work (Wong, 2020). It would seem that for many, time away from work is distressing, even stressful. Why?

Across five studies, I propose and test the psychological sequelae of a novel psychological construct: leisure guilt, defined as an experience or state of feeling guilty, distressed, or bad about spending time leisurely over productively. I focus my examination on how leisure guilt may shape everyday leisure experiences and time use. First, in Studies 1a and 1b, I used Natural Language Processing techniques and examined what leisure activities make

people feel happy and guilty, respectively. Unexpectedly, there was a significant overlap between activities that make people happy and guilty (e.g., watching TV, playing games), suggesting that activities that people enjoy may also be their source of guilt for wasting time. In addition, findings show that people with high tendencies to feel leisure guilt were more likely to report an overlap between happy and guilty leisure activities—indicating that when people with high leisure guilt engage in enjoyable, pleasant activities, they tend to feel guilt more.

Next, in Study 2a, I developed a Leisure Guilt Scale to assess individual propensities to experience guilt, distress, or anxiety when engaging in leisure. Results indicate that people high in leisure guilt were willing to spend more time on work and less time on leisure than they currently do. With the Leisure Guilt scale, in Study 2b, I further tested and found that people who show high levels of leisure guilt reported less enjoyment from their last leisure activities and greater tendencies to avoid having leisure time. These results did not substantially change controlling for theoretically relevant variables, such as guilt-proneness, leisure ethic, or protestant work ethic—confirming the discriminant validity and predictive power of leisure guilt. Furthermore, I investigated potential antecedents and consequences of leisure guilt. Findings reveal that people who are anxious about their socioeconomic standing in society report greater leisure guilt, which in turn was associated with various adverse psychological and health outcomes (i.e., subjective well-being, stress, anxiety, self-rated health).

Lastly, in Study 3, I used an Experience Sampling Method to investigate how leisure guilt plays out in everyday life. Replicating findings from Studies 2a and 2b, experiencing guilt when engaged in leisure was linked to lower enjoyment of leisurely moments, greater negative emotions about oneself and current time use, and more willingness to subsequently spend time productively. Furthermore, confirming Studies 2a and 2b results, people who are high in leisure

guilt (trait) spent less time leisurely and more time productively. When people high in leisure guilt were spending time leisurely, they were more likely to feel leisure guilt, feel worse about themselves and their current time use, and greater willingness to spend subsequent time productively. In light of these findings, I then tested whether spending time productively would make individuals high in leisure guilt feel better about themselves and the current time use. Findings indicated that when people high in leisure guilt were engaging in productive activities, they still reported negative feelings about the current time use—effects that held significant when controlling for relevant covariates. This pattern did not differ whether the current productive time was by "working" or other productive activities (e.g., household work). Interestingly, however, currently spending time productively was not associated with willingness and the actual likelihood of spending subsequent time productively, suggesting that being productive at the moment seems to assuage the preoccupations that they *should* spend time productively next.

According to a recent survey, while Americans' commitment to various traditional values is in decline (e.g., patriotism, religion), "hard work" remains among the utmost cherished values (Waldman, 2023). The findings from the current investigation suggest that this cultural ideology of moralizing hard work may actually create a psychological obstacle to a good life by making people feel guilty about their everyday leisurely moments.

Introduction

Among rich nations across the globe, the United States stands alone in being the only "no-vacation" country: it is the only advanced economy without a single legally required paid vacation day or public holiday. In the private sector, an average American worker gets about 16 days of paid time off a year, but one in four of them does not receive any paid vacation time (Center for Economic and Policy Research, 2019). This is far less compared to that of other developed countries. For example, all countries of the European Union have at least four weeks of paid vacation guaranteed by law. In the case of Austria, where workers have the most paid vacation time, there is a legal minimum of 35 paid vacation days each year. Other comparable countries to the United States, such as Canada (19 days) and the United Kingdom (28 days), also mandate paid time off (OECD, 2009). Thus, the absence of guaranteed vacation days may be a unique feature of American society.

The relative dearth of vacations in America may be attributable to factors beyond government policies. According to a recent multinational survey, less than half of American workers (44%) responded that they would take all or almost all of their vacation—which is a rate far lower than that of other rich countries (United Kingdom: 75%, Denmark: 71%, Germany: 70%; YouGov, 2015). And when workers were taking their vacations, more than half of them responded that they had checked in with their work during vacations (CBS News, 2018). Despite working longer hours than workers in comparable countries (e.g., Canada, United Kingdom, Germany; OECD, 2020)—American workers are not only guaranteed less free time in the first place, but many are not even willing to use all of it and feel guilty and stressed about taking time off from work (Lipman, 2018).

But then, why would people feel guilty for engaging in leisure? Leisure or free time refers to time spent away from obligation and necessity (Sonnentag, 2001) or specific activities that people enjoy (Argyle, 1996). Considering the definitions of leisure, leisure should be an inherently positive and enjoyable experience for people. However, this may not always the case; engaging in leisure may be a source of guilt or distress for some. Examining this possibility is the central issue guiding this dissertation.

Based on the widespread cultural phenomenon surrounding leisure, the current research has three principal aims: to 1) develop a novel psychological construct—leisure guilt—that reflects an experience or state of feeling guilt, distress, or generally negative about engaging in leisure, 2) examine a vital antecedent of individual tendencies to experience leisure guilt, and 3) examine how leisure guilt shapes everyday leisure experience, well-being, and time use.

In the following sections, I will first describe past literature on leisure, outlining the consequences of leisure and the lack thereof and factors known to influence leisure experience. Next, I will discuss how the pursuit of productivity may shape how people feel about their leisure and use of time. Then, drawing upon research on the emotion of guilt, I highlight leisure guilt as a psychological construct and illustrate how leisure guilt may shape leisure experience and time use—the central question guiding this investigation. Finally, I will discuss potential antecedents and consequences of leisure guilt, and theoretically relevant constructs to leisure guilt.

Importance of leisure

Leisure is a multidimensional construct (Newman et al., 2014) that can be broadly defined as free time or time that is spent away from obligation (e.g., paid or unpaid work, study) and necessity (e.g., eating, sleeping; Sonnentag, 2001). It can also be defined in regard to

activities—specific activities that people in general enjoy and thus view as leisurely, such as watching TV, reading, and listening to music (Argyle, 1996). Sometimes leisure also refers to states of mind, that is, intrinsic motivation and freedom (Iso-Ahola, 1997) or the experience of *flow* (Csikszentmihalyi, 1990). Another classic definition is introduced by Veblen in his book, *The Theory of the Leisure Class* (1899/2007). He defined leisure as "nonproductive consumption of time" and regarded it as belonging to the privilege of the wealthy—that only those who need not spend their time productively can enjoy an idle life with nonproductive consumption of time, the leisure. More recently, some research attempts to conceptualize leisure in terms of both structural (e.g., objective amount of leisure time, leisure activities) and subjective (e.g., activities or amount of time one views as leisurely) dimensions (Newman et al., 2014). As this review makes clear, there is no single agreed-upon definition of leisure, and research has been utilizing different conceptualizations of leisure, with temporal characterization (i.e., leisure as time spent away from obligated work time) being the basis for the definition of leisure (Purrington & Hickerson, 2013). To recognize the importance of both residual and experiential definitions of leisure (Haworth & Lewis, 2005), in the current investigation, I conceptualize leisure as the time that one can use at their own discretion and which is spent away from obligations (paid and non-paid work) and necessary activities (e.g., personal care).

A large body of research has shown that having quality leisure time is associated with a broad range of positive outcomes, such as reduced burnout, increased work performance, job satisfaction, mental and physical health, happiness, and well-being (Kuykendall et al., 2015; Sonnentag & Fritz, 2007; Sonnentag & Zijlstra, 2006). In particular, many studies find that leisure time or activities enhance individuals' subjective well-being (SWB), which consists of three components: life satisfaction, frequent positive affect, and infrequent negative affect

(Diener et al., 1999). Past works have demonstrated that SWB was positively associated with various leisure activities, such as taking trips (Mitas et al., 2012), doing art (Reynolds & Lim, 2007), playing sports or games, and watching television (Menec & Chipperfield, 1997). People who engage in more pleasant activities report greater positive mood (Lewinsohn & Graf, 1973), and leisure participation and leisure satisfaction were associated with reduced levels of anxiety (Kaufman, 1988). People who engage more frequently in enjoyable activities reported greater positive psychosocial well-being and lower levels of depression and negative affect (Pressman et al., 2009). In a meta-analysis study using 37 effect sizes and 11,834 individuals, findings showed that leisure engagement was linked to leisure satisfaction, which in turn leads to greater SWB (Kuykendall et al., 2015). In another study, researchers used an event memory task on college samples and found that leisure and recreation satisfaction was the strongest predictor of SWB (Balatsky & Diener, 1993). Despite different conceptualizations of leisure (e.g., leisure activities, time, experience) and diverse methodologies used across various research and disciplines, findings consistently support that engaging in leisure activities or spending time on leisure contributes to greater well-being. Considering this important role of leisure in shaping important outcomes, it will be important to investigate attitudes or values that undermine the quality and quantity of leisure experience.

Past works find that various factors could undermine individuals' leisure experiences. For example, organizational studies have shown that both individual (e.g., trait negative affectivity, rumination, high level of job involvement) and organizational (e.g., heavy workload, time pressure) factors can hinder individuals from detaching from work during leisure time (Sonnentag, 2012). In recent days, technological advances have been known to negatively influence people's leisure experiences. Prevalent use of smartphones, albeit increasing work

productivity, can also increase work-life conflict by blurring the boundaries between work and non-work life (e.g., home, family; Derks et al., 2015). Findings showed that work-related smartphone use was associated with reduced psychological detachment from work, exhaustion, work-home interference, and burnout (Derks & Bakker, 2014; Derks et al., 2015).

Other studies find that views people have on leisure and time influence leisure experiences. For example, a recent study finds that viewing leisure as wasteful undermines enjoyment of enacted leisure activities and mental health (Tonietto et al., 2021). Other research shows that pricing money on time lowers savoring of current enjoyable experiences (DeVoe & House, 2012) and increases people's willingness to cut their leisure time to earn more money (DeVoe & Pfeffer, 2007). Building upon and extending past findings, in the current dissertation, I investigate whether a novel psychological construct, leisure guilt—an experience or state of feeling guilty for spending time leisurely over productively—will shape everyday leisure experience (e.g., enjoyment) and time use.

Pursuit of productivity, time use, and leisure guilt

Even though there is no empirical research on leisure guilt per se, feeling bad or guilty for leisure is prevalent in popular discourse surrounding leisure. On popular online platforms such as Quora or Reddit, there are a plethora of posts on how people feel guilty about having leisure time: "Anyone else feel super guilty for relaxing for even a second?" (mariposa333, 2021), "Anyone else feel guilty for just relaxing?" (thisismyusername7765, 2022), "Am I wrong for not being productive on my leisure time as a college student?" (LarryMueler, 2022), "How can I stop feeling guilty while gaming or having leisure?" (dordeorelha, 2020), "Who else experiences Leisure Guilt?" (Eskibro47, 2014), "Why do I feel guilty if I am happy but not being 'productive'? I feel like I should be doing something when not doing anything feels good at the

moment." (Quora user, 2018). Across various demographics (e.g., people looking for jobs, college and graduate students), it seems that experiencing guilt or negative emotions for relaxing is heavily driven by the feeling that one is not being productive when having leisure time.

Indeed, feelings of anxiety over productivity (or its absence) are borne out by some research. Research shows that productivity and time efficiency have become important values in modern Western societies (Rifkin, 1987). Before industrialization, people's focus was on how to fill up their spare time, whereas now time is regarded as a scarce resource that one should guard and protect (Gleick, 2000). And viewing time as a scarce resource has given rise to concerns about being productive, accomplishing more in less time (Keinan & Kivetz, 2011) and reduced willingness to spend time on leisure (DeVoe & Pfeffer, 2007). Guided by these findings, leisure guilt may be a product of people's motivations to spend time, a valuable resource, in a productive manner.

"Leisure guilt" as a psychological construct

In the current investigation, I define leisure guilt as an experience or state of feeling guilty, distressed, or bad for spending time leisurely instead of productively. Even though the construct of leisure guilt includes various negative feelings (e.g., distress, anxiety, bad) and is not only specific to guilt, I termed the construct as leisure "guilt" among other negative emotions because I believe that the emotion of guilt most effectively captures the psychological construct of interest.

Guilt, along with shame, embarrassment, and pride, form a family of "self-conscious emotion" that arises on the basis of self-reflection and self-evaluation (Tangney et al., 2007; Tracy & Robins, 2004, 2006). Guilt is evoked during the processes of negative reflection about oneself for failing to meet the standard of their own or others' (Cohen et al., 2011; Tangney et

al., 2007). Given that negative evaluation of the self creates psychological discomfort, guilt is associated with avoidance motives, such that people are geared to avoid actions or situations that would elicit guilt (anticipated guilt; Lascu, 1991; Tangney et al., 2007). For example, studies find that relative to people who experience guilt less frequently, those who are prone to feeling guilt are more likely to behave ethically across various social contexts (e.g., workplace, economic games, delinquent behaviors) to avoid feeling guilt and bad about themselves (Tangney et al., 2007). In addition to avoidance motives, guilt is also associated with reparative behaviors. Given that feeling guilty is aversive to the self, when guilt is evoked, people are motivated to fix the condition that triggered it to assuage the negative emotion (Amodio et al., 2007; Baumeister et al., 1995; Keltner & Kring, 1998). For example, a study shows that compared with customers who did not feel guilty, those who felt guilty about not making purchases from salespersons whom they interacted with were more likely to return and make the purchases from the same salesperson (Dahl et al., 2005), indicating the reparative effects of guilt. Taken together, prior works suggest that guilt may heavily influence our thoughts and behaviors, guiding us to avoid actions that would elicit negative feelings. And when people commit acts that induce guilt, they feel bad about themselves, which could lead to subsequent reparative pursuits.

Findings from guilt research broadly set the stage for the effects of leisure guilt. Given that I expect leisure guilt to arise when spending time leisurely while people believe that they *should* be spending time productively, it stands to reason that spending time on leisure may feel like a *wrong* deed, thus evoking "leisure guilt." I expect that the functions of guilt may apply to leisure guilt in a similar way, such that leisure guilt will shape how people think and feel during leisure. To specify, I predict that leisure guilt will be positively associated with avoidance of leisure time because people would anticipate feeling guilty for leisure and thus would want to

avoid it. And when people with high leisure guilt do engage in leisure, they will feel bad about themselves and the current time use, derive less enjoyment, and will attempt to compensate for their current wrongful behavior (i.e., spending time on leisure) by spending time productively next.

Conceptually, various existing constructs regarding guilt and leisure may be relevant to the construct of leisure guilt. In the following section, I highlight preexisting constructs that are most conceptually relevant to leisure guilt. Furthermore, to verify the discriminant validity of leisure guilt, in the current investigation, I will empirically test how leisure guilt is related to and distinct from theoretically relevant constructs.

Constructs relevant to leisure guilt

Insofar as leisure guilt is a guilt-based construct that reflects preoccupations with spending time leisurely due to a preoccupation with productivity (e.g., work), it stands to reason that views people have toward leisure time and work as well as their individual tendencies to feel the emotion of guilt may be closely associated with leisure guilt. In this regard, below I outline three existing constructs that conceptually overlap with leisure guilt and that I seek to account for in the current work: guilt proneness (Cohen et al., 2011), leisure ethic (Crandall & Slivken, 1980), and protestant work ethic (Mirels & Garrett, 1971).

First, individual differences in proneness to feeling the emotion of guilt (i.e., guilt proneness; Cohen et al., 2011) may correlate with leisure guilt. Research finds that people differ in their levels of feeling the emotion of guilt, such that some people tend to experience it more frequently and to a greater degree than others (Cohen et al., 2011, 2012). Therefore, it is plausible that people who are prone to easily feel guilty in social situations may also experience leisure guilt more frequently, regardless of the leisure context. To tease apart this alternative

explanation, I will examine the relationship between guilt-proneness and leisure guilt and confirm whether leisure guilt has predictive power above and beyond guilt proneness.

Second, past studies in leisure literature have explored various feelings and attitudes people have toward leisure (Ragheb & Beard, 1982; Teixeira & Freire, 2013). Among these studies, the most relevant research is Crandall and Slivken (1980), where they developed a Leisure Ethic Scale that taps people's feelings and attitudes toward leisure in general (e.g., "My leisure is my most enjoyable time," "Leisure is great"). Even though these items tap different aspects of leisure to leisure guilt—which focuses on the occurrence of negative emotions during leisure time due to thoughts about productivity—one Leisure Ethic Scale item asks the degree to which people feel guilty for engaging in leisure (i.e., "I don't feel guilty about enjoying myself"), which is closely relevant to leisure guilt. However, an important assumption of leisure guilt is that the guilty feeling for engaging in leisure would arise due to thoughts about "work," whereas the guilt item in the Leisure Ethic Scale did not specify the reason for feeling guilty about enjoying oneself. It is possible that some people may feel guilty for the expenditures being spent on leisure activities (Han et al., 2020), not because of thoughts about productivity. Thus, I expect that leisure guilt and Leisure Ethic would be correlated but are distinct constructs. But given that the Leisure Ethic Scale does contain the item about feeling guilty for enjoying oneself, I will test how the leisure guilt scale would relate to and differ from the Leisure Ethic Scale.

Lastly, I expect that attitudes people have toward work would be associated with feeling guilty for taking leisure over working. Given that time is a definite resource that could either be spent productively or leisurely—the more people moralize hard work, the more people would feel uncomfortable about taking time off. In this light, I expect that Protestant Work Ethic (PWE; Mirels & Garrett, 1971) would correlate positively with leisure guilt. The PWE scale measures

the extent to which individuals endorse PWE beliefs (e.g., "Most people spend too much time in unprofitable amusements," "If one works hard enough he is likely to make a good life for himself"). I expect that those who endorse greater PWE values would experience greater leisure guilt.

Considering the relevance of the above constructs (guilt-proneness, leisure ethic, protestant work ethic) to leisure guilt, I will investigate 1) how these three constructs are related to leisure guilt, and 2) whether the newly developed Leisure Guilt Scale would have predictive power above and beyond the preexisting relevant constructs.

Status anxiety: a precursor of leisure guilt

I have proposed that leisure guilt reflects an individual tendency to experience guilt and general distress when engaging in leisure, due to a preoccupation with productivity. What, then, drives people's tendencies to experience differing degrees of leisure guilt? Even though a confluence of factors (e.g., personalities, views on leisure or work) may shape leisure guilt, in the current investigation, I will focus on status anxiety—worries or concerns about one's relative ranking in the status hierarchy (de Botton, 2008; Wilkinson & Pickett, 2010)—as a precursor of leisure guilt.

Status anxiety involves worries about not improving one's status, being stuck or too low in the current socioeconomic status, or becoming lower in status (de Botton, 2008; Jensen, 2006; Gill, 2015). Past studies found that status anxiety may be driven by desires for higher social status (Keshabyan & Day, 2020) because having higher social status offers various social, psychological, and physical benefits to individuals. Research finds that people desire to be seen as capable and successful by others (Wilkinson & Pickett, 2006), and enhancing social status is one of the core values that characterize human beings (Schwartz, 1992). These findings suggest

that wanting to improve one's relative standing in society could be a common goal for many, and there are reasons to believe that many individuals in the U.S. may feel concerned or worried about their social status.

Historically, in the U.S., one of the cherished cultural goals is that people should strive to get ahead and achieve socioeconomic success via hard work (Merton, 1938; Weber, 1904/1958). Given that one's socioeconomic conditions are viewed as predominantly determined by their own effort and hard work rather than external circumstances (Alesina et al., 2004), as a corollary, this could lead people to feel responsible for their own situations, thus pushing themselves to work harder and feel bad for *not* spending time productively (i.e., work). Based on this reasoning, in the current investigation, I will examine whether status anxiety is positively associated with leisure guilt, such that higher status anxiety is linked to greater leisure guilt.

Consequences of leisure guilt

Turning to the central question guiding this investigation—how would leisure guilt shape our everyday leisure experience, time use, and well-being? Drawing upon the findings across various literature, I hypothesize that people with high leisure guilt will 1) avoid taking leisure and 2) spend less time on leisure. And when they do have leisure time, they will 3) derive less enjoyment from the leisurely moments, 4) report lower self-worth, 5) feel greater negative/less positive affect for the time use, and 6) be more likely to spend subsequent time productively. Lastly, I predict that people with high leisure guilt will show 7) poor psychological and physical well-being. In what follows, I highlight research relevant to each of my predictions.

Avoidance of leisure and leisure time use. Insofar as I expect leisure guilt to arise when people believe that they *should* spend time productively, it stands to reason that spending time non-productively (i.e., leisure) would feel like a "misdeed" to people high in leisure guilt. Thus, I

predict that people high in leisure guilt will avoid spending time on leisure in the first place to avoid feeling guilty or negative about spending time on leisure. Research on guilt provides support for this account. People who are prone to feeling guilt behave more ethically than those lower in guilt-proneness because they anticipate feeling bad about committing transgressions and thus avoid behaving unethically (Cohen et al., 2012; Tangney et al., 2007). For instance, relative to people low in guilt-proneness, those high in guilt-proneness engage in fewer delinquent acts, are more honest during economic decision makings, commit less delinquent behaviors, were less likely to engage in counterproductive behaviors in the workplace (Cohen et al., 2012). Based on these findings, I predict that leisure guilt will be associated with greater avoidance of leisure due to anticipated negative emotions for engaging in leisure and, accordingly, reduced amount of time on leisure.

Enjoyment. Due to preoccupations with using time productivity, I expect that people with high leisure guilt will have a hard time "savoring" the leisurely moments, which broadly refers to becoming fully aware of the pleasure of the positive experience and appreciating the positive emotions derived from it (Bryant & Veroff, 2007). For instance, research shows that viewing time as money undermines savoring of current pleasurable and leisurely moments. When people regard time as money, it increases their impatience, leading to lower enjoyment of current activities and willingness to cut leisure time (DeVoe & House, 2012; DeVoe & Pfeffer, 2007). Another recent study shows that priming the values of leisure as wasteful and unproductive reduces the enjoyment of enacted leisure activity compared to when priming leisure as productive or non-leisure control (Tonietto et al., 2021). In a similar light, previous research in food consumption finds that anticipating guilt for consuming indulgent food reduces enjoyment of the food, especially for individuals high in dietary restraint (Elder & Mohr, 2020). Guided by

these findings, I predict that if people feel guilty for engaging in leisure, they will derive less enjoyment from the leisurely moments.

Self-worth and positive/negative affect. Research on contingencies of self-worth reveals that people invest their self-esteem in domains that are important to them (e.g., others' approval, physical appearance, academic competence), and success in the domains that people value boost their self-esteem, whereas setbacks in important domains drop self-esteem (Crocker & Wolfe, 2001; Li et al., 2020). Accordingly, prior works show that people invest more time in domains they place greater emphasis on. For instance, people who highly base their self-esteem on appearance spend more time grooming, exercising, and shopping for clothes. Similarly, students who deem academic performance as an important domain in life spend more time studying (Crocker et al., 2003). As I am theorizing that valuing productivity (i.e., work) may give rise to feeling guilty for leisure, I anticipate that spending time on leisure instead of work will be associated with lower self-worth, and greater negative affect and less positive affect during leisure for people high in leisure guilt.

Subsequent time use. As feeling guilty is aversive, when guilt is evoked, people are motivated to eliminate the condition that caused it (Keltner & Kring, 1998) and are likely to engage in reparative behaviors to assuage their guilt (Amodio et al., 2007; Baumeister et al., 1995). To highlight an example, findings from an experiment from consumer research show that when consumers failed to make a purchase from salespersons with whom they established high connectedness (as opposed to low connectedness), they felt greater guilt. This elevated guilt, in turn, was associated with reparative behaviors, such that consumers who felt guilty were more likely to pursue future purchases from the salespersons to assuage their guilt (Dahl et al., 2005). Another research in the context of racial prejudice provides neural evidence on the reparatory

effects of guilt using electroencephalography (EEG). White participants were given bogus feedback that they showed anti-Black responses, which led to elevated guilt. When given opportunities to engage in prejudice-reducing action, guilt was associated with shifts in frontal asymmetry in the brain region that is associated with approach motives—indicative of reparative effects of guilt (Amodio et al., 2007). Together, these findings provide evidence for the influence of guilt on reparative behaviors. In a similar light, I expect that when people high in leisure guilt experience guilt during their leisure activities—to compensate for their wasted time—they will be more likely to engage in reparative behaviors (i.e., spend subsequent time productively) to reduce their guilty feelings.

Psychological and physical well-being. A large body of literature has shown that leisure plays a crucial role in psychological and physical well-being. People who frequently engage in leisure and pleasant activities indicate greater positive mood (Lewinsohn & Graf, 1973), lower levels of depression, anxiety, and negative affect, and greater positive psychosocial well-being (Kaufman, 1988; Pressman et al., 2009). On the other hand, lack of leisure or recovery experience was associated with poorer health, lower well-being, and greater stress and burnout (Derks et al., 2015; Sonnentag, 2012). Consistent with these findings, a recent study finds that beliefs that leisure is wasteful were linked to lower happiness and greater anxiety, depression, and stress (Tonietto et al., 2021). Given this robust negative association between poor leisure experience and well-being—I predict that deteriorated leisure experience due to guilty feelings (leisure guilt) will also predict worsened psychological and physical well-being.

Drawing from past works across diverse literature ranging from guilt to contingent self-worth and well-being, I will investigate how leisure guilt shapes everyday leisure experience, time use, and well-being—the central question guiding this investigation. I hypothesize that

people high in leisure guilt will tend to avoid having leisure, and spend less time on leisure. Furthermore, among those engaging in leisure, I predict that leisure guilt will be associated with reduced enjoyment, lower self-worth, greater negative affect, lower positive affect for the current time use, and greater likelihood of spending subsequent time productively. Lastly, I hypothesize that leisure guilt will be negatively associated with psychological and physical well-being.

The present research

Across five studies, I developed a novel psychological construct—leisure guilt—and investigated its association with everyday leisure experience and time use. To do so, I first explored what leisure activities people engage in their daily life and how they feel about them, using Natural Language Processing techniques (adult sample: Study 1a, undergraduate student sample: Study 1b). Next, I developed a Leisure Guilt Scale, which is a measurement to assess the individual tendency to feel leisure guilt (Study 2a). With the Leisure Guilt Scale, I tested whether people high in leisure guilt derive less enjoyment from their everyday leisurely moments and also examined the potential antecedents (e.g., status anxiety) and consequences of leisure guilt (e.g., well-being; Study 2b). Lastly, using the Experience Sampling Method, I investigated how leisure guilt actually plays out in people's everyday lives, examining its relation to enjoyment, self-worth, and positive and negative affect during leisure, and subsequent time use.

Study 1a

What leisure activities do people often engage in during their free time, and what activities make them feel happy or guilty? In Study 1a, I aimed to explore what kind of leisure activities people engage in and how they feel about those activities using natural language processing techniques. In addition, I examined whether the individual tendency to feel leisure guilt relates to how they feel about their happy/guilty leisure activities.

According to the American Time Use Survey (U.S. Bureau Of Labor Statistics, 2021), for ages 15 and over (96% of the population), watching television accounts for the most leisure/sport activity on an average day (2.9 hours per day), amounting to half of all leisure time. The next frequent leisure/sport activity was Socializing and Communicating (e.g., visiting friends), with an average of 34 minutes, and Playing games and Using computer for leisure, also with an average of 34 minutes. Although these statistics provide a useful picture of what leisure activities people engage in and for how long, they do not convey how people actually feel and think about these commonly engaged leisure activities.

Therefore, I sought to extend these findings by examining how people feel about their usual everyday leisure activities. Specifically, I was interested in exploring what leisure activities make people happy, and what leisure activities make people guilty, respectively. To do so, rather than giving participants a list of options to choose from, I asked open-ended questions to allow more room for personal and diverse responses from participants.

To analyze the open-ended text data about the happy and guilty leisure activities, I employed Natural Language Processing techniques. Research finds that the words people use in their everyday life convey important messages about their psychological and social world (Pennebaker et al., 2003; Tausczik & Pennebaker, 2010). Examining natural language not only offers valuable psychological information but also allows researchers to gain novel insight into how people feel and think in their daily life (Tausczik & Pennebaker, 2010).

Given these benefits of analyzing natural language, in Study 1a, I examined what leisure activities people often engage in during their free time, and what activities make them feel happy and/or guilty using two natural language processing techniques, the bigram and word cloud

analyses. Additionally, I investigated how leisure guilt was associated with how people feel about their happy/guilty leisure activities.

Method

Participants and procedures. I recruited 520 participants via Prolific Academic. Thirty participants were deleted for failing an attention-check item (i.e., To ensure that the survey is working properly, please choose 7: strongly agree), and two were removed for not providing an adequate participant ID, leaving a final sample of 488 participants for our analyses. After providing consent, participants responded to a battery of questions regarding their attitudes toward leisure and various social issues, including leisure activities.

Measures for happy/guilty leisure activities. I first instructed participants to think about how they usually spend their leisure time on an average day. Then I provided the following definition and examples of leisure:

> Leisure refers to free time or time you can spend however you would like. It is the time in a day that is not spent on paid work (e.g., work, business), non-paid work (e.g., study, domestic chores, commute), and necessary activities (e.g., sleeping, eating).
>
> Examples of leisure activities include playing on your phone, watching TV, socializing, exercising, listening to music, and engaging in a hobby or pastime.

After reading the definition of leisure, I asked participants to take a moment to think about the various leisure activities they engage in. Then I presented two open-ended questions: Which of the leisure activities make you (the happiest) [feel the most guilty for wasting your time]? Participants were asked to name two activities each for the happy and guilty leisure activities.

Study 1a Natural Language Processing Analytic Strategy

To examine what participants wrote about their happy and guilty leisure activities, I employed two natural language processing techniques, the Bigram analysis, and Word cloud analysis. The Bigram analysis examines the frequency of word pairs that appear most commonly in the corpus of responses, and the Word cloud analysis produces a visualization of the most frequently occurred single words in text data. The two analyses are widely used in research to assess the frequency of word contents in text analyses (Eichstaedt et al., 2015; Jones et al., 2016).

To make participants' open-ended responses adequate for text analyses, I performed the standard data cleaning processes for natural language processing techniques, which includes removing emojis, punctuations, extra whitespaces, stop words, and numbers that were included in the responses (Jones et al., 2020). Then, I ran the bigram and word cloud analyses on the responses to the happy and guilty leisure activities, using the qdapRegex and wordcloud packages in R.

Study 1a Results

The bigram results are provided in Figure 1 (most happy leisure activities) and Figure 2 (most guilty leisure activities). For the happy leisure activities—video games, watching TV, playing video (games), watching movies were the most frequently cited bigrams (i.e., word pairs). For the guilty leisure activities, the most frequent bigrams were watching TV, video games, social media, playing video (games), watching Youtube, amongst others.

Figure 1. *Study 1a top word pairs on happy leisure activities*

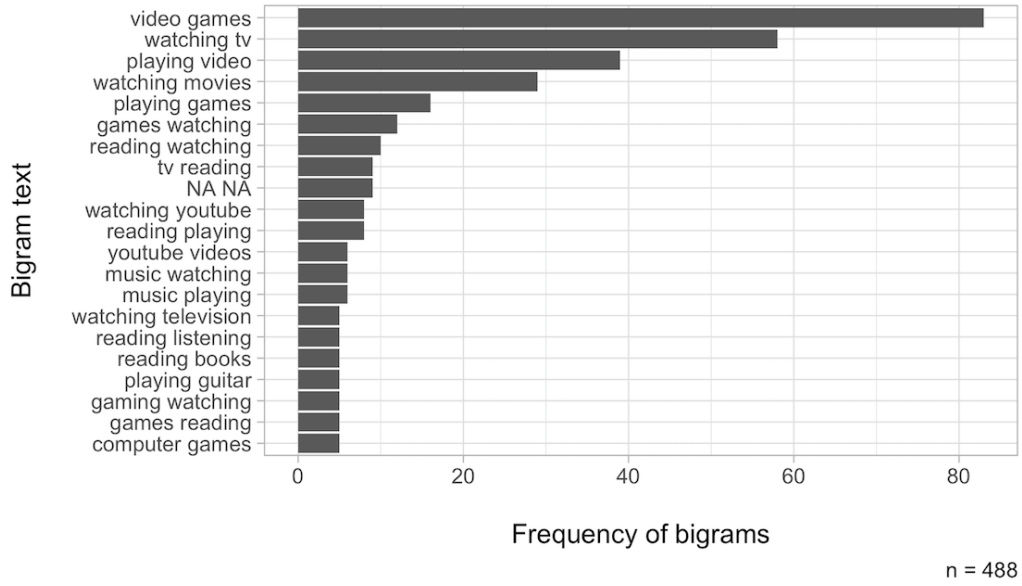
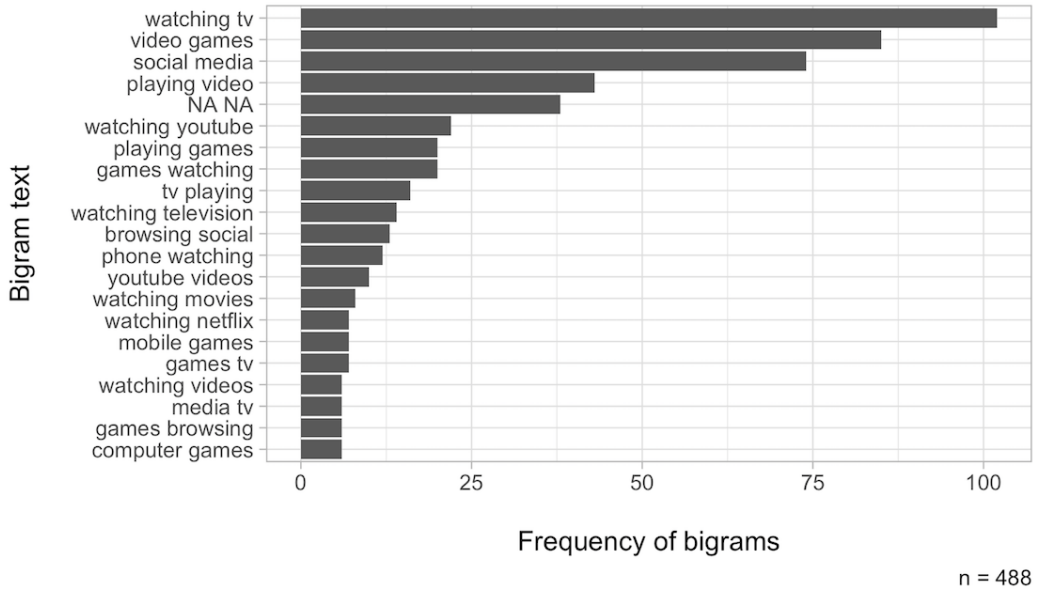


Figure 2. *Study 1a top word pairs on guilty leisure activities*



Figures 3 (happy leisure activities) and 4 (guilty leisure activities) show the results of word cloud analyses. Similar to the results of the bigram analyses, playing, video, emerge as one of the most frequently occurring words in both happy and guilty activities.

Figure 3. *Study 1a word cloud on happy leisure activities*

Figure 4. *Study 1a word cloud on guilty leisure activities*

These findings were in line with the American Time Use Survey (ATUS; U.S. Bureau Of Labor Statistics, 2021) but add more nuances. For instance, the current findings seem to be in line with the ATUS statistics that people spend much leisure time watching TV and playing video games, as those two were the top two bigrams emerged for both happy and guilty leisure activities.

Interestingly, based on the bigram and word cloud analyses, it seems that there is a considerable overlap between activities that make people feel happy and guilty (e.g., video

games, watching TV). These results were somewhat unexpected, as I explicitly asked participants two separate questions about what activities make them happiest and guiltiest. Thus, I did not expect there to be considerable overlap between the two types of leisure activities. When examining the raw text responses of participants, indeed, a sizeable percentage of participants (25%) cited the same two activities as happy- and guilty-inducing leisure activities.

I suspect that leisure guilt plays a role in this overlap of happy- and guilty- leisure activities. That is, for people who are high in leisure guilt, enjoyable activities that make them feel happy may also be a source of their guilt at the same time. I sought to test this next.

Leisure guilt and Overlap between the happy/guilty activities. Because leisure guilt is associated with feeling guilty and bad for spending leisurely instead of productively, I predicted that people high in leisure guilt would show a greater overlap between the activities that make them feel happy and guilty. This means that when people high in leisure guilt are spending time on enjoyable activities, they may not be fully savoring it because, at the same time, they may be feeling guilty for wasting time on it.

Measures

Leisure guilt. Individuals' level of leisure guilt was assessed using the following item: "Were I to spend time on leisure rather than working, I would feel guilt" (1: Strongly disagree, 7: Strongly agree). Higher scores indicate greater tendencies to feel leisure guilt (M = 3.27, SD = 1.89).

Overlap between happy/guilty activities. An independent coder oblivious to the research question examined participants' text responses for the happy and guilty activities. If there was an overlap between the happy/guilty activities, it was coded as 1, and if there was no overlap, it was

coded as 0. Among the 488 participants, 25% reported an overlap between the happy and guilty leisure activities (overlap: 122 participants, no overlap: 366 participants).

Results and Discussion

In line with my prediction, the results of logistic regression indicated that the higher leisure guilt people have, the more likely they were to report an overlap between the happy and guilty leisure activities [b = 0.15, $SE\ b$ = .06, Wald $\chi 2$ = 7.42, p = .006. When controlling for various demographic factors, including weekly leisure hours, subjective amount of leisure time ("I have too much/little leisure time"), age, race, gender, education, and socioeconomic status, leisure guilt still significantly predicted greater overlap between happy and guilty activities [b = .13, $SE\ b$ = .06, Wald $\chi 2$ = 7.42, p = .03. These results suggest the possibility that people with high leisure guilt may not be able to fully savor the leisurely enjoyable moments in their daily life, as they tend to feel guilt whilst engaging in activities that make them happy. In the next study, I aim to examine whether this pattern of findings would replicate or diverge with college students.

Study 1b

Method

Participants. 339 undergraduate students were recruited through the undergraduate research subject pool at a public university in California. 52 participants failed an attention check item ("To ensure that the survey is working correctly, please choose 7: strongly agree"), making the final sample size 287 (Gender: Female 81.5%, Male 15.7%, Other 1.7%; Age: M = 21.19, SD = 3.21; Ethnicity: Asian 35.5%, Lation/a/x 34.8%, White 15.0%, Black or African American 4.2%, Other 9.4%).

Procedures. The study method for the bigram and word cloud analyses was identical to that of Study 1a. I used the same open-ended questions assessing happy and guilty leisure activities as in Study 1a, as well as the identical single-item indexing leisure guilt. Notably, the average leisure guilt was considerably higher for the undergraduate students in this study (M = 4.31, SD = 1.84) than the general adult population of Study 1a (M = 3.27, SD = 1.89).

Results of bigram and word cloud analyses. The results of the text analyses are presented below in Figure 5 (bigrams for happy leisure activities), Figure 6 (bigrams for guilty leisure activities), Figure 7 (word cloud on happy leisure activities), and Figure 8 (word cloud on guilty leisure activities). The pattern of findings using the undergraduate sample was considerably similar to that of Study 1a, which made use of the general adult sample, in terms of the similarities cited for happy (i.e., watching TV, movies, video games) and guilty activities (i.e., social media, watching tv, video games). However, generational differences are also noticeable. For the undergraduate sample, a few novel bigrams emerged, such as Tik Tok and watching anime, which seem to reflect the cultural trend of the younger generation.

Figure 5. *Study 1b top word pairs on happy leisure activities*

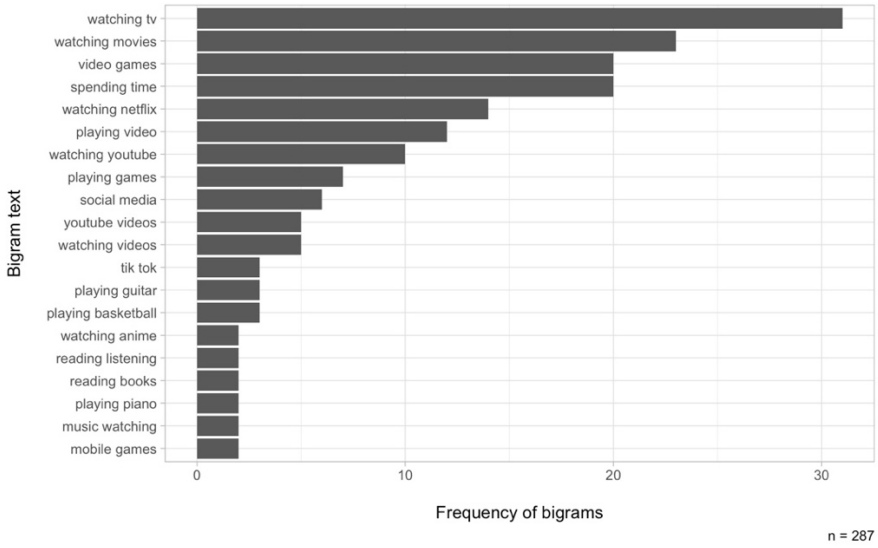


Figure 6. *Study 1b top word pairs on guilty leisure activities*

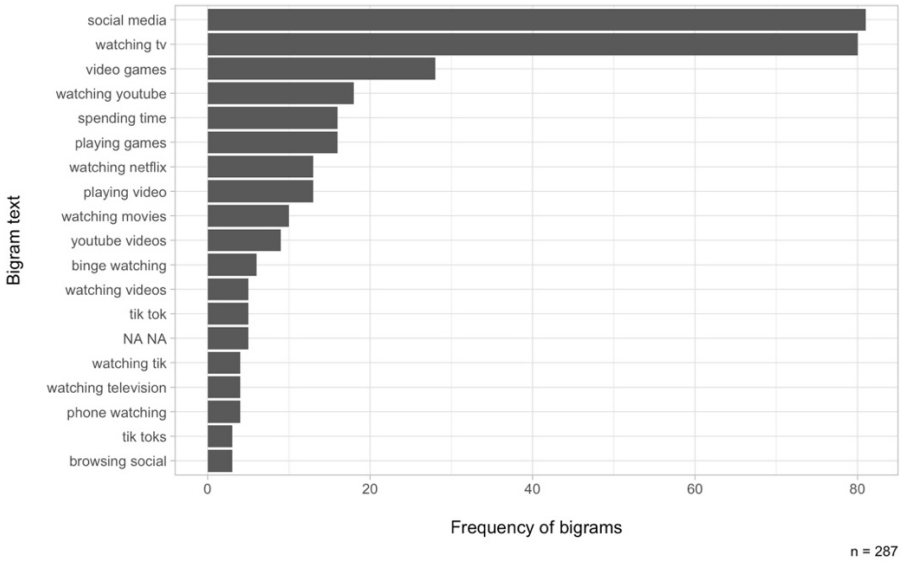


Figure 7. *Study 1b word cloud on happy leisure activities*

Figure 8. *Study 1b word cloud on guilty leisure activities*

Leisure guilt and overlap of happy/guilty activities

Among the 287 undergraduate students, 36.2% reported an overlap between the happy/guilty activities (overlap: 104 participants, no overlap: 183 participants), which was a rate higher than that of Study 1a (general adult sample, 25.0% of overlap). Replicating Study 1a findings, undergraduate students with high leisure guilt were more likely to show an overlap between the happy and guilty leisure activities, $b = .16$, $SE\ b = .07$, Wald $\chi 2 = 5.53$, $p = .019$. Results remain substantively identical when controlling for the same demographic factors as

Study 1a (except education level, which should be analogous across this college participants): weekly leisure hours, subjective amount of leisure time, age, race, gender, and socioeconomic status [b = .19, $SE\ b$ = .07, Wald $\chi 2$ = 6.88, p = .009.

Study 1a-b discussion

Using natural language processing results, I examined what the popular leisure activities in the United States are, and what leisure activities make people happy and guilty. Unexpectedly, I found that some of these popular leisure activities can simultaneously induce both happiness and guilt in people engaging in them. In addition, findings revealed that the higher the leisure guilt people have, the more prone they are to feel happy and guilty at the same time while engaging in leisure activities.

It is important to note that there were noticeable discrepancies among individuals, such that some people reported an overlap of happy and guilty leisure activities while others did not (25% overlap for the general US adult sample and 36.2% for the undergraduate student sample). These findings imply that there could be considerable individual differences in the extent to which people feel leisure guilt. Based on these results, in the next study, I sought to develop a Leisure Guilt Scale that could assess the degree to which individuals feel leisure guilt.

Study 2a

Building on the findings of Studies 1a and 1b, the main goals of Study 2a were twofold: First, I sought to develop and validate a multi-item Leisure Guilt Scale to assess the extent to which individuals feel guilty about spending time leisurely instead of productively. Second, I was interested in examining how the Leisure Guilt Scale associates with how people feel about their leisure and time use. I predicted that people high in leisure guilt would want to reduce their leisure time, spend more time on work, and feel bad about their current amount of leisure time.

Method

Participants. I recruited 318 participants via Prolific Academic. Twenty participants were deleted for failing an attention-check item (i.e., To ensure that the survey is working properly, please choose 7: strongly agree), leaving a final sample of 298 participants for our analyses. After providing consent, participants responded to a battery of questions regarding their attitudes toward leisure and other social issues.

Leisure Guilt Scale construction. To develop a scale to assess individuals' tendency to feel guilty for taking leisure instead of work, I first wrote items that were designed to assess feelings of negative emotions when engaging in leisure time (e.g., guilty, feeling bad about oneself), which are driven by the thoughts that they should spend this time on work instead. To minimize the possibility of participants conceptualizing leisure in different ways, I provide the following definition of leisure before presenting the scale items.

> Please think about how you usually spend your leisure time on an average day.
>
> * Leisure refers to free time or time you can spend however you would like. It is the time in a day that is not spent on paid work (e.g., work, business), non-paid work (e.g., study, domestic chores, commute), and necessary activities (e.g., sleeping, eating).
>
> Examples of leisure activities include playing on your phone, watching TV or YouTube, socializing, exercising, listening to music, and engaging in a hobby or pastime.

After reading the definition of leisure, participants were asked to think about their leisure time, and indicate the extent to which they agree or disagree with the items (1: Strongly disagree, 7: Strongly agree). The items constituting the scale are listed in Table 1 below.

Additional measures. To examine how leisure guilt relates to how people feel about their leisure and time use, I measured participants' desired time use, amount of leisure time, subjective leisure time, and demographics.

*Desired time use***.** How people ideally want to spend their time was measured using the following item from the General Social Survey: "Suppose you could change the way you spend your time, spending more time on some things and less time on others. Which of the following things would you like to spend more time on, which would you like to spend less time on, and which would you like to spend the same amount of time on as now? Would you like to…" There were five categories: Time in a paid job, Time in leisure activities, Time doing household work, Time with your family, and Time with your friends, all measured using a 5-point scale (1: Much less time, 2: A bit less time, 3: Same time as now, 4: A bit more time, 5: Much more time). Time in paid job (M = 3.28, SD = 1.19), time in leisure activities (M = 3.37, SD = 1.02), time doing household work (M = 3.10, SD = 1.08), time with your family (M = 3.69, SD = 0.97), time with your friends (M = 3.93, SD = 0.81).

Daily leisure time. I measured how much time participants spend on leisure on their average day, using the following item: "Approximately, how many hours of leisure time do you have on an average day? (please enter as a number from 0 to 24)". M = 6.37, SD = 4.24.

Subjective amount of leisure time. Participants' views on their amount of leisure time was measured. "How do you feel about the amount of leisure time you have on an average day?" (1: I have too little leisure time, 7: I have too much leisure time), M = 4.22, SD = 1.71.

Results

Leisure Guilt Scale. I conducted an exploratory factor analysis using Principal Axis Factoring with Oblique rotation (Costello & Osborn, 2005). Using parallel analysis, there was

one factor that explained 63.2% of cumulative variance. Examination of the scree plot further confirmed that there was one factor. I dropped items with a factor loading of less than .8, leaving 4 items in total. Inspecting the items, as hypothesized, the item about guilt ("I feel guilty when I'm spending time on leisure rather than work") had the highest factor loading of 0.90. Other items appeared to tap into negative feelings and distress about engaging in leisure over work (e.g., "I feel bad about myself when I spend time on leisure rather than work). The Leisure Guilt Scale consisting of four items showed good reliability (M = 3.44, SD = 1.79, Cronbach's α = .93). See Table 1 for items and factor loadings.

Table 1. *Item descriptive statistics and factor loadings for the Leisure Guilt Scale*

Item		*M*	*SD*	Factor loadings	Uniqueness
				Leisure guilt	
1	**I feel guilty when I'm spending time on leisure rather than work**	3.62	2.00	0.90	0.20
5	**I feel bad about myself when I spend time on leisure rather than work**	3.41	1.97	0.89	0.20
3	**I feel like I'm doing something wrong when I relax instead of work**	3.59	2.03	0.85	0.27
7	**I feel like a bad person when I take time off instead of work**	3.14	1.92	0.81	0.35
2	I often regret my decision to spend time on leisure instead of work	3.18	1.86	0.77	0.41
4	I often can't really enjoy the leisure time because of the thoughts about work	3.50	1.92	0.70	0.51
6	Thoughts about work make me feel uncomfortable when I spend time on leisure	4.20	1.94	0.61	0.63

Note. Bolded items were retained as the final items (item 1, 3, 5, 7). Principal axis factoring extraction method with oblimin rotation was used. Parallel analysis was used to determine the number of factors. Used a 7-point scale (1: Strongly disagree, 7: Strongly agree)

Leisure guilt across demographics. Next, I examined the level of leisure guilt across various demographic factors. Findings showed that leisure guilt was negatively correlated with

age (r = -.24, p < .001) and annual income (r = -.15, p = .01), but was not correlated with subjective socioeconomic status (SES; r = -.07, p = .23), political conservatism (r = .06, p = .30), and education level (r = -.04, p = .53). See Table 2 to examine the level of leisure guilt across basic demographic characteristics.

Table 2. *Leisure guilt across demographics characteristics*

		Leisure guilt	
	N	*M*	*SD*
Gender			
Female	186	3.58	1.77
Male	102	3.11	1.73
Other/Prefer not to say	6	4.63	2.47
Ethnicity			
White	185	3.34	1.85
Black or African American	29	3.61	1.87
Asian	43	3.73	1.52
Latino/a/x	25	3.30	1.60
American Indian or Alaska Native	2	5.25	1.77
Other	10	3.42	1.89
Work status			
Employed full time	110	3.02	1.70
Employed part time	49	3.58	1.84
Unemployed looking for work	37	3.83	1.91
Unemployed not looking for job	11	3.43	1.57
Retired	9	2.31	1.71
Housekeeper not otherwise employed	9	3.08	2.07
Student	54	4.12	1.65
Other	17	3.51	1.69

Leisure guilt and desired time use. Lastly, I tested the relation between leisure guilt, desired time use, and the amount of leisure time. As predicted, results of correlation analyses indicated that higher leisure guilt was associated with greater willingness to cut one's leisure time (r = -.17, p = .004), and with greater desire to spend more time on paid work (r = .31, p < .001). Contrary to my expectations, however, leisure guilt was not linked to the amount of

daily leisure time (r = -.05, p = .43) but was significantly linked to the subjective amount of leisure time (r = .17, p = .003). These findings suggest that people high in leisure guilt tend to think that they currently have too much leisure time—which may be independent of their actual amount of leisure time—and wish to spend time more on work and less on leisure.

Extending these findings, in the next study, I aim to further examine the construct of leisure guilt with theoretically relevant variables to determine the discriminant validity. Also, I investigated how leisure guilt shapes how people think and feel about their actual leisure experiences.

Study 2b

Now that I developed the Leisure Guilt Scale, I turned to the central hypotheses guiding this investigation—How does leisure guilt shape how people feel and think about their leisure experience?

The goals of Study 2b were twofold: First, I sought to investigate whether leisure guilt predicts reduced enjoyment and greater avoidance of leisure, above and beyond other variables, including theoretically relevant constructs (guilt-proneness, protestant work ethic, leisure ethic) and personality traits (the Big Five). It is plausible that people who are prone to feeling the emotion of guilt in general may also frequently feel leisure guilt, regardless of the leisure context. To account for this alternative explanation, I examined the relation between guilt-proneness and leisure guilt. Furthermore, how people view work and leisure may play an important role in the quality and quantity of people's leisure experiences. Therefore, I measured protestant work ethic and leisure ethic, and tested how they relate to leisure guilt. In addition, given the pervasive influence of personality traits (e.g., conscientiousness) on leisure-relevant attitudes (like work), I sought to examine how personality traits are linked to leisure guilt.

The second goal of Study 2b was to investigate potential antecedents and consequences of leisure guilt. To specify, I predicted that preoccupations with one's socioeconomic status in society (i.e., status anxiety) would be associated with greater feelings of leisure guilt, thus serving as an antecedent of leisure guilt. With respect to the potential consequences of leisure guilt, I predicted that leisure guilt would have negative downstream consequences on psychological (i.e., subjective well-being, anxiety, stress) and physical well-being (i.e., self-rated health).

Method

Participants. 490 participants were recruited via Prolific Academic. 35 participants were excluded due to failing an attention check ("To ensure that the survey is working correctly, please choose 7: strongly agree"), leaving a final sample of 455 participants.

Measures.

Leisure guilt. I used the 4-item Leisure Guilt Scale (e.g., "I feel guilty when I'm spending time on leisure rather than work") using a 7-point scale (1: Strongly disagree, 7: Strongly agree). $M = 3.28$, $SD = 1.83$, $\alpha = .94$.

Leisure enjoyment. To measure enjoyment from leisure, I used the following instruction and item: "There are various leisure activities people engage in, such as playing video games, watching TV or YouTube, playing with your phone, watching movies, reading, and listening to music. Now, please think about the last time you engaged in a leisure activity. When was it? What did you do? Please take a moment and try to recall the time as vividly as possible." Then I asked what leisure activity participants engaged in (open-ended question), and measured enjoyment using the following item: "How much did you enjoy the leisure activity?" (1: Did not enjoy at all, 7: Enjoyed it very much), $M = 5.96$, $SD = 1.10$.

Leisure avoidance. I created four items that would assess people's tendency to avoid having leisure time due to thoughts about work (i.e., leisure avoidance). Sample items include, "When I have a choice of whether to work or leisure, I often choose to work because I know I'll feel bad about having spent time on leisure instead of work" (1: Strongly disagree, 7: Strongly agree). $M = 2.85$, $SD = 1.57$, $\alpha = .92$.

Time spent on leisure. Time spent on leisure was measured using the following item: "How much time in minutes did you spend on the leisure activity? (e.g., write 120 if it was two hours)" $M = 109.27$, $SD = 103.40$.

Guilt proneness. Participants' tendency to feel guilt in general was measured using the five-item Guilt Proneness scale developed by Cohen et al. (2011). The scale includes 5 scenario items (e.g., "You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?) using a 5-point scale (1 = Extremely unlikely, 5 = Extremely likely). $M = 3.92$, $SD = 0.80$, $\alpha = .75$.

Protestant work ethic. I employed the 19-item Protestant work ethic (PWE; Mirels & Garrett, 1971) to assess participants' level of protestant work ethic on a 5-point scale (1: strongly disagree, 5: strongly agree). Sample items include, "Most people spend too much time in unprofitable amusements." $M = 2.88$, $SD = 0.62$, $\alpha = .86$

Leisure ethic. Using the 10-item Leisure Ethic Scale (Crandall & Slivken, 1980), I measured participants' attitudes toward leisure (e.g., "I admire a person who knows how to relax"). The scale uses a 5-point response format (1: strong disagreement, 5: strong agreement). $M = 3.85$, $SD = 0.61$, $\alpha = .77$.

Big five personality traits. Participants' big five personality traits (i.e., openness, conscientiousness, extraversion, agreeableness, and neuroticism) were assessed using the Ten

Item Personality Measure (TIPI; Gosling et al., 2003). Extraversion: $M = 3.46$, $SD = 1.65$, $\alpha = .74$, Agreeableness: $M = 5.20$, $SD = 1.29$, $\alpha = .45$, Conscientiousness: $M = 5.15$, $SD = 1.52$, $\alpha = .70$, Emotional stability: $M = 4.46$, $SD = 1.66$, $\alpha = .78$, Openness to experiences: $M = 5.16$, $SD = 1.32$, $\alpha = .49$.

Status anxiety. To measure the extent to which people feel status anxiety, I used the 5-item status anxiety scale developed by Keshabyan and Day (2020). An example item is, "I sometimes worry that I might become lower in social standing" (1: strongly disagree, 7: strongly agree). $M = 3.51$, $SD = 1.68$, $\alpha = .91$.

Life satisfaction. To assess people's overall life satisfaction, I used the 5-item, 7-point (1: Strongly disagree, 7: Strongly agree) satisfaction with life scale (SWLS; Diener et al., 1985). An example item is, "In most ways my life is close to my ideal." $M = 20.68$, $SD = 7.71$, $\alpha = .91$.

Scale of Positive and Negative Experience (SPANE). Participants' experienced positive and negative affect in the last four weeks were measured using SPANE (Diener et al., 2009). SPANE includes 12 emotions (e.g., positive, negative, happy, sad), measured on a 5-point scale (1: Very rarely or never, 5: Very often or always). Positive affect: $M = 20.68$, $SD = 7.71$, $\alpha = .92$, Negative affect: $M = 14.08$, $SD = 5.39$, $\alpha = .89$.

General anxiety. I measured participants' general anxiety levels using the Generalized anxiety disorder (GAD7; Spitzer et al., 2006). It taps the extent to which one feels anxious (e.g., Feeling nervous, anxious or on edge) using 7 items (4-point scale; 0: Not at all, 3: Nearly every day). $M = 14.23$, $SD = 6.05$, $\alpha = .93$.

Perceived stress. To gauge participants' stress, I used the perceived stress scale (Cohen et al., 1983). The four items in this scale ask participants about their feelings and thoughts during the last month (e.g., "In the last month, how often have you felt that you were unable to control

the important things in your life?") using a five-point scale (0: Never, 4: Very often; $M = 7.01$, $SD = 3.69$, $\alpha = .82$).

Health status. I used the self-rated health status questionnaire (Ware & Sherbourne, 1992) to measure participants' perceived health status: "Would you say that in general your health is…" (1: Poor, 2: Fair, 3: Good, 4: Very good, 5: Excellent), $M = 3.45$, $SD = 0.98$.

Analyses and Results

Correlations between leisure guilt and relevant constructs. To examine how leisure guilt correlates with relevant constructs, I first ran zero-order correlation analyses (see Table 3).

Table 3. *Zero-order correlations between leisure guilt and relevant constructs*

Variable	*Mean*	*SD*	Leisure guilt	1	2	3	4	5
Leisure guilt	3.28	1.83	—					
Relevant constructs								
1. Guilt proneness	3.92	0.80	.03	—				
2. Leisure ethic	3.85	0.61	-.40***	-.02	—			
3. Protestant work ethic	2.88	0.62	.23***	.11*	-.41***	—		
Psychological traits								
1. Extraversion	3.46	1.65	-.19***	-.15**	—			
2. Agreeableness	5.20	1.29	-.20***	-.27***	.15**	—		
3. Conscientiousness	5.15	1.52	-.22***	-.33***	.17***	.22***	—	
4. Emotional stability	4.46	1.66	-.40***	-.63***	.23***	.34***	.43***	—
5. Openness to experiences	5.16	1.32	-.14**	-.07	.27***	.29***	.12*	.09*

Contrary to my predictions, findings revealed that leisure guilt was not significantly correlated with guilt-proneness, indicating that people's tendency to feel the emotion of guilt in general was not linked to leisure guilt. Leisure guilt was significantly correlated with leisure ethic (r = -.40, p < .001) and protestant work ethic (r = .23, p < .001), suggesting that how people view leisure and work may shape leisure guilt.

With respect to personality traits, emotional stability (r = -.40, p < .001) showed the highest correlation with leisure guilt, followed by conscientiousness (r = -.22, p < .001), agreeableness (r = -.20, p < .001), extraversion (r = -.19, p < .001), and openness to experiences (r = -.14, p < .001).

Discriminant validity of leisure guilt. Next, I sought to investigate whether leisure guilt predicts enjoyment of leisure activities and leisure avoidance, above and beyond preexisting relevant constructs, to confirm the discriminant validity of leisure guilt. To do so, I first examined what variables correlated with enjoyment from the last activity. Findings showed that enjoyment was linked to leisure guilt (r = -.15, p < .001), leisure avoidance (r = -.10, p = .03), guilt-proneness (r = .14, p = .003), leisure ethic (r = .25, p < .001), agreeableness (r = .15, p = .002), conscientiousness (r = .09, p = .049), and emotional stability (though marginally; r = .09, p = .06).

To test whether leisure guilt was an independent predictor of leisure enjoyment above and beyond other relevant variables of leisure guilt—I first performed multiple regressions on enjoyment controlling for the relevant constructs respectively. Findings revealed that leisure guilt significantly predicted enjoyment, accounting for leisure avoidance (b = -0.12, SE = 0.05, β = -.20, p = .019), guilt-proneness (b = -0.10, SE = 0.28, β = -.16, p < .001), protestant work ethic (b = -0.11, SE = 0.03, β = -.19, p < .001), agreeableness (b = 0.69, SE = 0.25, β = .80, p < .001),

conscientiousness (b = -0.08, SE = 0.03, β = -.14, p = .003), and emotional stability (b = -0.08, SE = 0.03, β = -.14, p = .006). However, when controlling for leisure ethic, leisure guilt no longer predicted leisure enjoyment (b = -0.04, SE = 0.03, β = -.07, p = .19). This was presumably due to the substantial conceptual overlap between leisure ethic (one of the scale items was "My leisure is my most enjoyable time.") and leisure enjoyment. Overall, leisure guilt demonstrated a good predictive power above and beyond other predictors of leisure enjoyment.

I repeated the same procedure as above to examine the predictive power of leisure guilt on avoidance of leisure. First, correlation analyses demonstrated that leisure avoidance was associated with leisure guilt (r = .78, p < .001), leisure ethic (r = -.43, p < .001), protestant work ethic (r = .29, p < .001), anxiety (r = .38, p < .001), extraversion (r = -.11, p = .02), agreeableness (r = -.14, p = .004), emotional stability (r = -.24, p < .001), and openness to experiences (r = -.12, p = .008).

To examine whether leisure guilt predicts leisure avoidance above and beyond other relevant variables—I performed multiple regressions on leisure avoidance accounting for the relevant constructs respectively. Findings showed that leisure guilt significantly predicted leisure avoidance, accounting for guilt proneness (b = 0.69, SE = 0.24, β = .80, p < .001), leisure ethic (b = 0.64, SE = 0.26, β = .74, p < .001), protestant work ethic (b = 0.66, SE = 0.25, β = .77, p < .001), extraversion (b = 0.69, SE = 0.25, β = .80, p < .001), agreeableness (b = 0.69, SE = 0.25, β = .80, p < .001), emotional stability (b = 0.72, SE = 0.26, β = .83, p < .001), and openness to experiences (b = 0.68, SE = 0.25, β = .80, p < .001). These results suggest that leisure guilt is a robust, strong predictor of leisure avoidance above and beyond preexisting relevant constructs.

Together, these findings suggest that the more leisure guilt people feel, the more likely they are to avoid taking leisure. And when they do engage in leisure, people with high leisure guilt would be less likely to derive enjoyment from the leisurely moments.

Status anxiety and leisure guilt. Given that leisure guilt is feeling guilty and bad for spending time leisurely instead of productively (e.g., work), it is possible that people who have high status anxiety—feeling anxious and worried about one's socioeconomic standing in society—may be more prone to feeling leisure guilt due to their preoccupations with improving their lot. Thus, I predicted that status anxiety would be positively associated with leisure guilt.

As predicted, status anxiety positively predicted leisure guilt (b = 0.48, SE = 0.05, β = .44, $p < .001$), such that the more status anxiety people felt, the more leisure guilt they reported. These results held significant when controlling for household income and subjective SES (b = 0.48, SE = 0.05, β = .44, $p < .001$), b = 0.48, SE = 0.05, β = .44, $p < .001$.

Leisure guilt and psychological, physical well-being. Past literature has shown that not having enough quality leisure time is detrimental to psychological and physical well-being (Kuykendall et al., 2015; Sonnentag & Fritz, 2007; Sonnentag & Zijlstra, 2006). As people with high leisure guilt tend to avoid having leisure time (Studies 2b), feel guilty during pleasurable leisure activities (Studies 1a-1b), and derive less enjoyment from leisure (Studies 2b), it stands to reason that leisure guilt should be linked to deteriorated leisure quality, resulting in worsened psychological and physical well-being. Therefore, I predicted that leisure guilt would be negatively associated with psychological (i.e., subjective well-being, stress, anxiety) and physical (perceived health status) well-being outcomes.

As expected, leisure guilt significantly predicted reduced life satisfaction (b = -0.74, SE = 0.20, β = -.18, $p < .001$), lower positive affect experienced in the last four weeks (b = -0.61, SE =

0.13, β = -.23, $p < .001$), greater negative affect experienced in the last four weeks ($b = 1.20$, $SE = 0.13$, β = .41, $p < .001$), higher levels of anxiety ($b = 1.65$, $SE = 0.14$, β = .50, $p < .001$), more stress ($b = 0.79$, $SE = 0.09$, β = .40, $p < .001$), and worse self-rated health ($b = -0.08$, $SE = 0.03$, β = -.16, $p < .001$).

Indirect effects of status anxiety on psychological and physical outcomes via leisure guilt. Given the significant associations between status anxiety-leisure guilt and leisure guilt-psychological, physical well-being, I moved on to testing mediation models. With the exception of life satisfaction (indirect estimate = -0.06, $SE = 0.10$, $z = -0.61$, $p = .54$), there were significant indirect effects of status anxiety on positive affect (indirect estimate = -0.13, $SE = 0.06$, $z = -1.95$, $p = .051$), negative affect (indirect estimate = 0.39, $SE = 0.07$, $z = 5.23$, $p < .001$), anxiety (indirect estimate = 0.56, $SE = 0.09$, $z = 6.49$, $p < .001$), stress (indirect estimate = 0.20, $SE = 0.05$, $z = 4.37$, $p < .001$), health (indirect estimate = -0.03, $SE = 0.01$, $z = -1.99$, $p = .046$) via heightened leisure guilt. The indirect effects of status anxiety on the outcomes via leisure guilt remain significant when controlling for household income and subjective SES. These findings suggest that status anxiety could give rise to leisure guilt, which in turn, could lead to reduced mental and physical well-being.

Study 3

The findings of Studies 1a-2b show that people with high leisure guilt tend to avoid having leisure time due to thoughts about productivity (Studies 2a-2b), and when they do engage in pleasurable leisure activities, they often feel guilty at the same time (Studies 1a-1b) and feel less enjoyment from their daily leisure activities (Studies 2b).

In Study 3, I sought to extend these findings by looking at how leisure guilt plays out in everyday life using the Experience Sampling Method (ESM). The ESM is a longitudinal research

methodology that taps participants' thoughts, feelings, behaviors, and/or environment at the moment or shortly thereafter on multiple occasions over time (Csikszentmihalyi, 2014). Using ESM can help avoid the pitfalls associated with traditional self-report surveys or laboratory experiments, where data are usually collected outside the context of the situation or are gathered in retrospect, making them susceptible to memory biases or global heuristics (Scollon et al., 2003). Employing ESM enables researchers to obtain comprehensive, in vivo snapshots of daily lives and form a database that is representative of people's lives during a typical week (Csikszentmihalyi & Larson, 2014). Given these advantages, ESM has been widely used in social sciences and psychology across various topics, including flow (Csikszentmihalyi, 2014), emotional experiences (Diener et al., 1984), morality (Hofmann et al., 2014), mind wandering (Killingsworth & Gilbert, 2010), happiness (Csikszentmihalyi & Wong, 2014), mental health (Myin-Germeys et al., 2018), freedom (Csikszentmihalyi & Graef, 2014), trust (Weiss et al., 2021), soccer results (Stieger et al., 2015), amongst many others.

Using ESM, I aimed to investigate how leisure guilt plays out in people's everyday life. Broadly, I asked the following five research questions: (Q1) How leisurely/productively do people spend their time every day? (Q2) How often do people experience leisure guilt? (Q3) Who is more susceptible to feeling leisure guilt? (Q4) What are the consequences of feeling leisure guilt? (Q5) How do people with high leisure guilt feel when spending time leisurely (versus productively)?

Given that the current investigation is the first attempt to develop and explore the construct of leisure guilt, I first started by documenting how people spend their time (leisurely or productively) in general (Q1), and how often people report feeling leisure guilt during leisure (Q2). Then, I moved on to examining who was more susceptible to feeling leisure guilt, based on

Study 2a-2b results. I tested whether status anxiety and various demographic factors (e.g., age, gender, SES) were associated with feeling leisure guilt (Q3). Next, I sought to test whether the pattern of findings from Study 2b replicates, such that feeling leisure guilt was associated with reduced enjoyment and greater avoidance of leisure (Q4). In addition, drawing from the literature on guilt, I examined whether feeling leisure guilt would be linked to reduced positive affect and greater negative affect, lower self-worth, and subsequent time use (Q4). Next, I investigated how people with high leisure guilt feel and think during leisure and productive use of time. Given Studies 1a-2b findings, I predicted that people with high leisure guilt would be more likely to feel leisure guilt during leisure, and would experience the negative impacts of leisure guilt to a greater degree. But then, would spending time productively lead people high in leisure guilt to feel better about the time being used and about themselves? (Q5)

Method

Participants. I recruited 336 adult participants in the United States via Prolific Academic. The demographic characteristics of the study sample are as follows: Age (M = 35.4, SD = 11.2; dropped one data that indicated their age as 3, and converted another data that responded in the year of birth, 1990, to age 33), gender (Female 48.9%, Male 48.9%, Other/Prefer not to say 2.2%), ethnicity (White 77.0%, Asian 7.5%, Latino/a/x 6.6%, Black or African American 5.4%, Other 3.0%, American Indian or Alaska Native 0.6%), subjective social class (Middle-class 39.7%, Lower-middle class 32.2%, Lower-class 17.9%, Upper-middle class 9.6%, Upper-class 0.6%) and work status (Employed full-time 47.0%, Employed part-time 15.5%, Unemployed looking for job 11.3%, Student 6.5%, Housekeeper not otherwise employed 6.3%, Unemployed not looking for job 5.1%, Other 5.1%, Retired/Pensioned 3.3%).

Procedure. After giving consent to participate in this study, participants were asked to download an open-source smartphone app specialized for ESM research (i.e., ESMira; (https://esmira.kl.ac.at/?lang=en) on their phone, in which all the data collection occurred. The current ESM study consists of two parts: baseline and daily surveys. After installing the ESMira app, participants were asked to complete a baseline survey that measured various aspects of psychological characteristics (e.g., leisure guilt, personality traits), social beliefs (e.g., status anxiety), and demographic factors. After participants completed the baseline survey, following the next day for a week, participants were instructed to take the daily surveys. Six daily surveys were sent to participants via ESMira push app notifications daily at random times between 9 am and 10 pm. The six push app notifications were sent out with at least 1-hour window apart from each other, and participants were asked to finish each daily survey within 1-hour of receiving it. Reminders were sent once for each daily survey if participants had not responded to the notifications in 30 minutes.

Measures for the baseline survey.

Leisure Guilt Scale. Identical to Study 2b. Higher scores indicate greater leisure guilt. $M = 3.55$, $SD = 1.91$, $\alpha = 0.96$.

Guilt proneness. Identical to Study 2b. Higher scores indicate greater guilt-proneness. $M = 3.90$, $SD = 0.77$, $\alpha = 0.74$.

Status anxiety. Identical to Study 2b. Higher scores show more status anxiety. $M = 3.73$, $SD = 1.73$, $\alpha = .92$

Status ambition. Identical to Study 2b. Higher scores mean greater status ambition. $M = 4.13$, $SD = 1.43$, $\alpha = .90$

Big five personality traits. Identical to Study 2b. Extraversion: $M = 2.82$, $SD = 1.57$, $\alpha = .80$, Agreeableness: $M = 5.27$, $SD = 1.25$, $\alpha = .43$, Conscientiousness: $M = 5.21$, $SD = 1.38$, $\alpha = .68$, Emotional stability: $M = 4.30$, $SD = 1.63$, $\alpha = .80$, Openness: $M = 5.07$, $SD = 1.41$, $\alpha = .59$.

Life satisfaction. Identical to Study 2b. Higher scores indicate greater life satisfaction. $M = 18.89$, $SD = 8.31$, $\alpha = .94$.

Scale of Positive and Negative Experience (SPANE). Identical to Study 2b. Positive affect: $M = 19.84$, $SD = 5.15$, $\alpha = .94$, Negative affect: $M = 15.42$, $SD = 4.81$, $\alpha = .89$.

Measures for the daily survey.

Global happiness. At the start of each daily survey, I measured how participants were feeling at the moment, by using a global happiness measure ("How are you feeling right now?" 1: Very bad, 10: Very good; adapted from Killingsworth & Gilbert, 2010). $M = 7.12$, $SD = 1.20$.

Current activity. Participants' current activity was recorded based on the following item: "What are you doing right now (i.e., what did you do before you started filling in this questionnaire)?" (please check all that apply). 16 options for activities were provided, and participants could choose multiple options: Working, Relaxing-nothing special, Watching television, Home-computer, Playing on your phone, Eating, Talking-conversation, Rest/sleep, Preparing food, Doing housework, Commuting-traveling, Taking care of your children, Grooming-self-care, Reading, Exercising, Other (please specify). The list of activities was adapted from past research on ESM and Day Reconstruction Method that examined people's daily lives (Kahneman et al., 2004; Killingsworth & Gilbert, 2010).

Spending time productively/leisurely: To gauge how participants feel about their current use of time, I used the following item: "Is what you are doing now ...". Choice options were

"Productive" (coded as 0) and "Leisurely" (coded as 1). Among the total reports (n = 11,447) collected, leisurely moment accounts for 57.1% (n = 6,531) of the reports, and productive moment consists for 42.9% (n = 4,916).

Leisure guilt: To estimate how frequently people feel leisure guilt while having leisure time, I employed the following item: "If you are having leisure time now - Do you feel guilty for spending time on leisure instead of other activities?" (coded as 0: No, 1: Yes). Among the reports collected during leisurely time (n = 6,497), 14.3% (n = 929) reported feeling guilty for spending time on leisure instead of other activities, whereas 85.7% (n = 5,568) indicated not feeling guilty for spending time on leisure instead of other activities.

Leisure time alone/with others: To examine whether people are spending leisure time alone or with others, I asked: "If you are having leisure time now - Are you spending your leisure time alone or with others?" (coded as 0: Alone, 1: With others). Leisure time alone (58.1%; n = 3,792) was more frequent than leisure time with others (41.8%; n = 2,718).

Enjoyment of the current activity: Participants' enjoyment of the current activity was assessed: "How much are you enjoying the current activity?" (1: Not at all, 2: Not so much, 3: Somewhat, 4: A little bit, 5: Very much). M = 3.59, SD = 1.13.

Feeling good about the use of time: To examine how positive participants feel about their current use of time, I asked: "Right now, how good do you feel about spending time on the current activity?" (1: Not at all, 2: Not so much, 3: Somewhat, 4: A little bit, 5: Very much). M = 3.73, SD = 1.13.

Feeling bad about the use of time: To assess how negative participants feel about their current use of time, I used the following item: "Right now, how bad do you feel about spending

time on the current activity?" (1: Not at all, 2: Not so much, 3: Somewhat, 4: A little bit, 5: Very much). $M = 1.65$, $SD = 1.01$.

Self-worth: Participants' perceived self-worth was measured using the following: "How satisfied are you with yourself at the moment?" (1: Not at all, 2: Not so much, 3: Somewhat, 4: A little bit, 5: Very much). $M = 3.60$, $SD = 1.10$.

Subsequent time use: At the end of each daily survey, I asked participants' subsequent time use: "When you are done with the current activity, what are you planning on doing next? Is what you are going to do next…:" (coded as Productive: 0, Leisurely: 1). Engaging in leisurely time next 53.7% ($n = 6{,}135$) was higher in frequency than engaging in productive time 46.3% ($n = 5{,}299$).

1. How leisurely/productively do people spend their time every day?

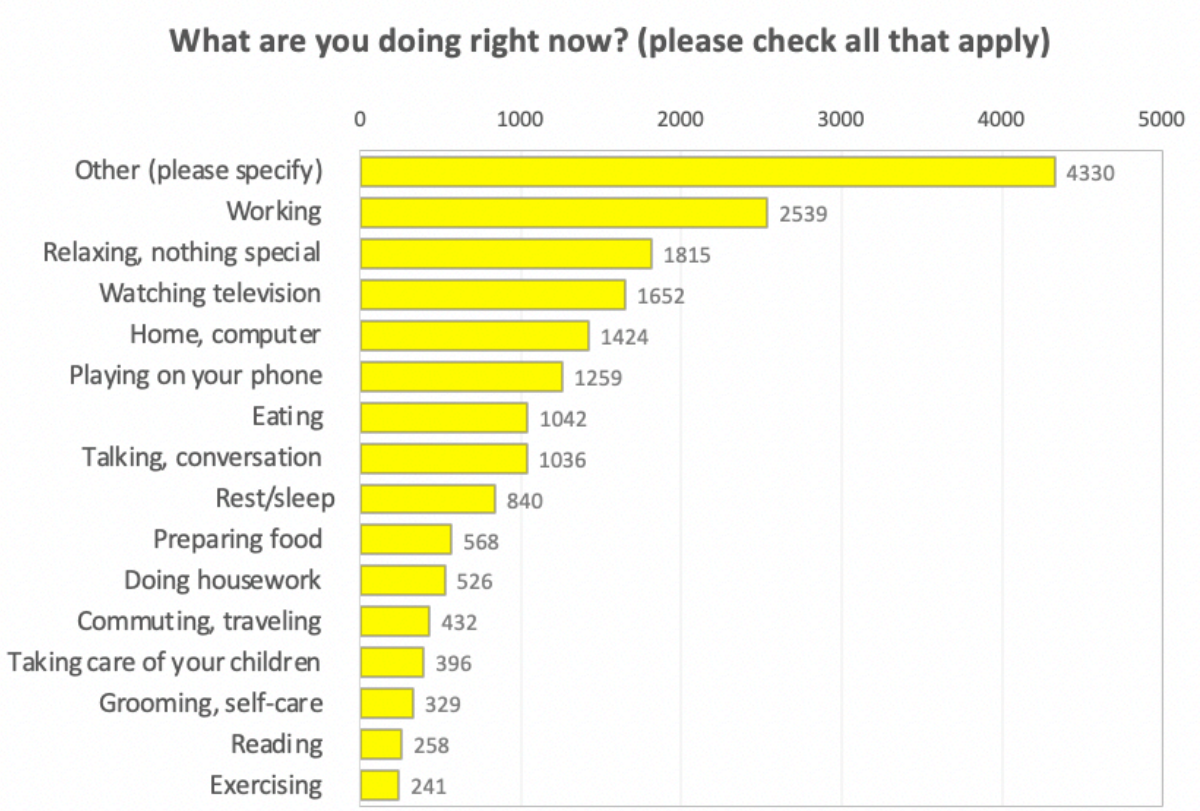
30 participants who provided five or fewer of the daily surveys (5/42, completion rate about 12%) were excluded, making the final sample size 336. On average, participants completed 41.5 daily surveys ($SD = 9.4$, ranging from 6 to 77) across seven days, making the total number of reports $n = 11{,}447$.

At the start of each daily survey, participants were asked about how they were feeling right now. Across the reports ($n = 11{,}447$), on average, people indicated feeling good at the moment ($M = 7.12$, $SD = 1.20$). This dovetails with past literature on well-being that people are generally in a positive mood (Diener et al., 2015).

Next, participants were asked to report what they were currently doing at the moment. Results showed that the option 'Other (please specify)' was reported the most ($n = 4{,}330$), followed by 'Working' ($n = 2{,}539$), 'Relaxing-nothing special' ($n = 1{,}815$), 'Watching

television' (*n* = 1,652), 'Home-computer' (*n* = 1,424), and 'Playing on your phone' (*n* = 1,259). See Figure 9 below for the full list of the frequency of different activities.

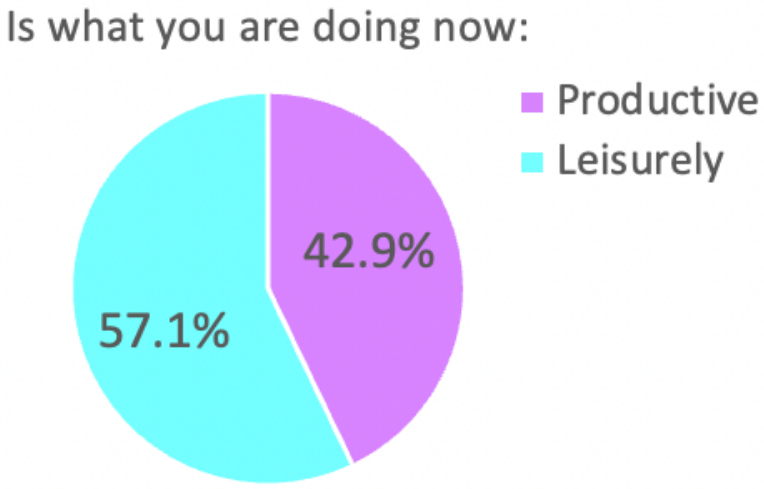
Figure 9. *Frequency of activities for current time activity variable*



Given that 'Other (please specify)' category had the highest frequency, I examined the individual text responses. Some common activities that were not captured by the list of activities emerged, including watching Youtube/Tik Tok/movies, playing video games, shopping, spending time with pets, listening to music, and studying. There were some less frequent activities, such as "cutting a king size bed down to a queen size," "crying because my friend and I are arguing," and "about to indulge in marijuana." These findings imply that the activities people do every day converge substantially (e.g., Working, Relaxing-nothing special), but could diverge at the same time.

When asked whether what they were doing now was leisurely or productive—across the reports (n = 11,447), 57.1% (n = 6,531) responded "Leisurely," while 42.9% reported "Productive" (n = 4,916; Figure 10).

Figure 10. *Perceptions of current time use as leisurely or productive*

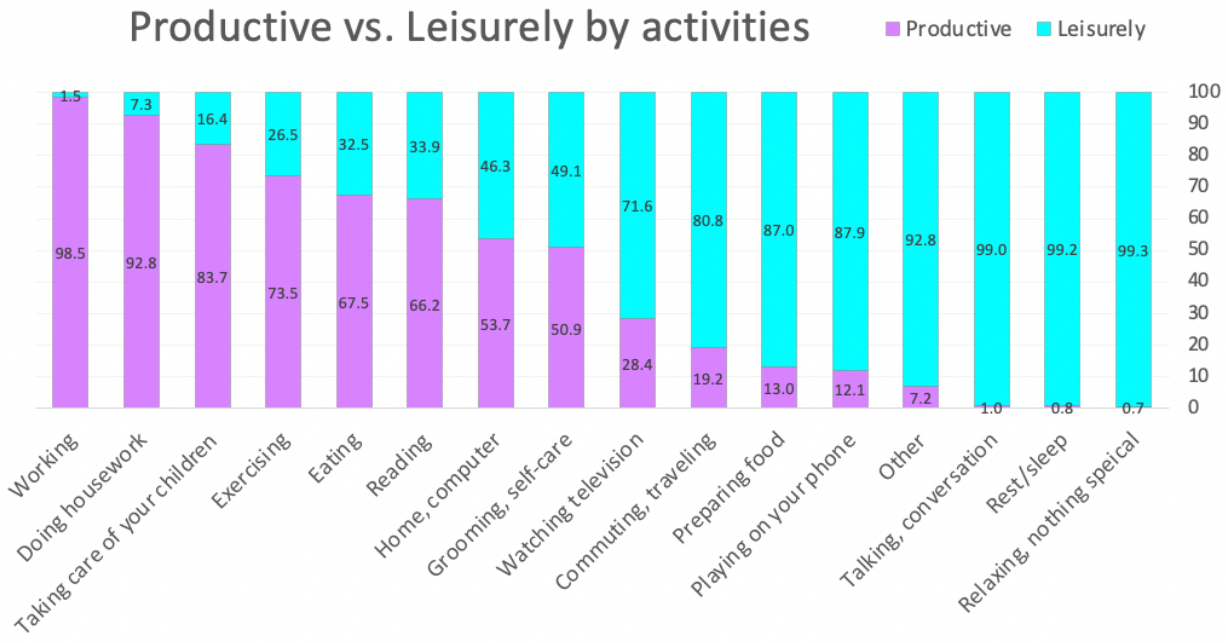


In general, people reported feeling happier when spending time leisurely (M = 7.19, SD = 2.03) than productively (M = 7.02, SD = 1.95), b = 0.26, SE = 0.05, 95% CI (0.17, 0.35), df = 283.8, t = 5.70, p < .001.

How are different daily activities perceived as leisurely or productive? Next, I was interested in examining how the various activities commonly occurring in people's daily life are viewed as leisurely or productive. Given that participants could choose multiple activities at once for what they were doing at the moment (e.g., Home-computer and Eating), to test this, I only extracted the data with only a single response on what activity they are doing now (e.g., Working). See Figure 11 below. Findings indicate that there were significant variations across different activities in how people view them. For instance, 'Working' (98.5%), 'Doing housework' (92.8%), and 'Taking care of your children' (83.7%) were predominantly viewed as a productive use of time, while 'Relaxing-Nothing special' (99.3%), 'Rest/sleep' (99.2%), and

'Talking-conversation' (99%) were considered highly leisurely. Activities such as Grooming-self-care (1.8% difference) and Home -computer (7.4% difference) were similarly reported as being productive or leisurely.

Figure 11. *Perceptions of activities as leisurely or productive*

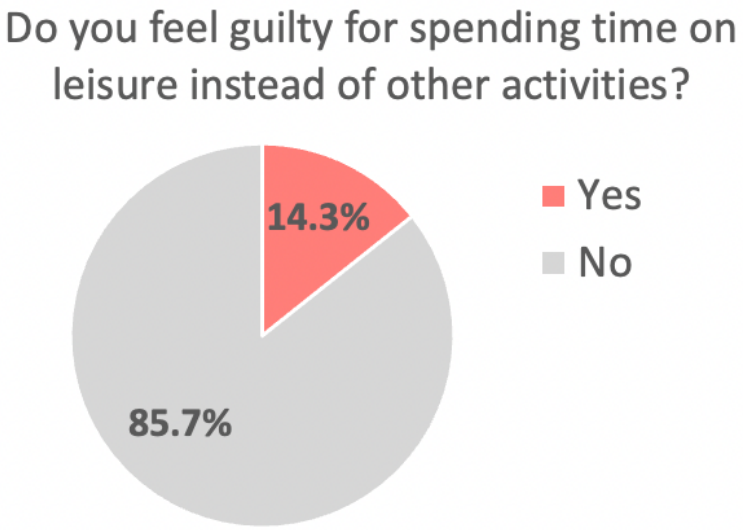


2. How often do people experience leisure guilt in their everyday life?

If participants indicated that they were having a leisurely time (as opposed to productive time), then I asked a follow-up question about whether they feel guilty for spending time on leisure instead of other activities (i.e., leisure guilt). Among the leisure reports (n = 6,497), 14.3% (n = 929) responded feeling leisure guilt, whereas 85.7% (n = 5,568) of reports did not indicate feeling leisure guilt. See Figure 12.

Importantly, people were significantly happier when they did not feel leisure guilt during leisure (M = 7.31, SD = 1.95) relative to when they felt leisure guilt (M = 5.80, SD = 2.09), b = -1.02, SE = 0.08, 95% CI (-1.18, -0.86), df = 184.6, t = -12.60, p < .001.

Figure 12. *Percentage of feeling leisure guilt during leisure*



Interestingly, people do not seem to frequently feel leisure guilt while engaging in leisure, given the rate of feeling leisure guilt while engaging in leisure (14.3%). However, another possibility is that as the participants were online survey platform workers who were taking this study in exchange for payment, filling out these questionnaires during their leisure time may be considered a 'productive' use of time, which may have assuaged their leisure guilt.

Another possibility is that having leisure time alone (vs. with others) may influence leisure guilt. A large body of literature finds that people are highly social in nature, such that people have fundamental social motives for affiliation and interactions with others (Baumeister et al., 1995; Cacioppo & Cacioppo, 2014). Other research shows that having meaningful social relationships and engaging in social activities is pivotal to well-being (Diener, 1984; Steger & Kashdan, 2009). Another recent study demonstrated that having shared moments with others increased social connectedness and meaning (Goldy, 2022). Given the highly social nature of people, I predicted that when people are having leisure time with others (as opposed to solo leisure time), they would be less likely to feel leisure guilt.

Solo leisure vs. leisure time with others. Among the leisure reports (n = 6,510), 58.2% (n = 3,792) indicated having solo leisure time, and 41.8% (n = 2,718) responded having leisurely time with others. As predicted, results of multilevel regression showed that if people were spending leisure time with others relative to having solo leisure time, they were less likely to feel leisure guilt [b = -0.10, SE = 0.01, 95% CI (-0.12, -0.08), df = 266, t = -8.79, p < .001]. These findings suggest that leisure guilt could be mitigated when spending leisurely moments with others relative to spending time alone.

According to the American Time Use Survey conducted between 2003 and 2021, people are increasingly spending more time being alone than time interacting with others (U.S. Bureau of Labor Statistics, 2021). Given this rising social trend, it is plausible that people may become more prone to feeling leisure guilt by having more solo leisure time.

What days and times do people engage in leisure and feel leisure guilt? How people feel, think, and behave varies by time of day, day of the week, and by different seasons of the year. Research finds that people's daily mood fluctuates depending on what activities they are engaging in (e.g., fun, television, discourse), where they are (e.g., home, work; Stone et al., 1996), diurnal hormonal patterns (Adam et al., 2017), amongst many others.

Other studies demonstrate the "day-of-week" (DOW) effects, showing that mood, cognitions, and behaviors vary significantly across different weekdays (Csikszentmihalyi & Hunter, 2003; Suk et al., 2021). For instance, people report greater negative mood and lower positive mood on Monday (i.e., blue Monday), greater positive mood and reduced negative mood on Friday (i.e., Thank God It's Friday), and feel happier on the weekends than on the weekdays (Csikszentmihalyi & Hunter, 2003; Stone et al., 2012). Many work and leisure activities also show weekly patterns (Areni, 2008), including employee absenteeism (Dalton & Mesch, 1991),

sleep behavior (Yang et al., 2001), work performance (Lamond, 2003), planning activities (Croft & Walker, 2001), food choice (Cullen et al., 2002), shopping (Hirsh et al., 1986) amongst many others. Together, these findings suggest that people's moods and mode of life vary by time of day and days of the week.

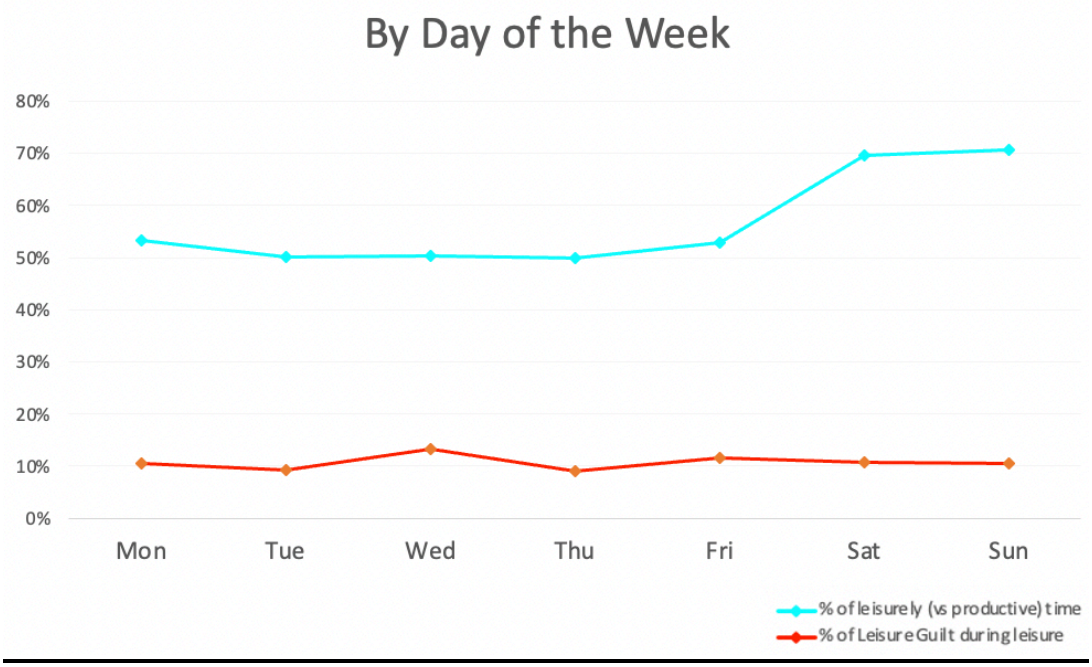
By definition, leisure guilt may arise when people are having leisure time. Thus, it stands to reason that feelings of leisure guilt should be closely tied to the frequency and amount of leisure time. National surveys showed that Americans have more leisure time on the weekend (6.59 hours) than on the weekdays (4.73 hours; U.S. Bureau of Labor Statistics, 2021). As people have more leisure time on the weekends, it is possible that they may feel greater leisure guilt during the weekends due to extended leisure time. On the other hand, weekends are regarded by most people as a time to refresh from work, spend time with family and friends, and engage in leisurely activities. Given this prevalent social norm, people may not feel much leisure guilt during the weekends despite the longer leisure time. I sought to examine how leisure (vs. productive) time and leisure guilt vary across the time of the day and the days of the week.

Weekly patterns of Leisure (vs. Productive) time and Leisure guilt. Below in Table 4 includes the percentage of responding as Leisurely (vs. Productive) for their current activity, and among the leisurely reports (n = 6,497), the percentage of feeling leisure guilt, and the number of reports across the days of the week. See Figure 13 to examine the pattern.

Table 4. *Percentage of current time use (leisurely vs. productive) and percentage of feeling leisure guilt during leisure*

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
% of Leisurely time	53.40%	50.16%	50.39%	49.95%	52.93%	69.61%	70.78%
Number of reports	1,586	1,559	1,544	917	1,914	1,652	1,636
% of Leisure Guilt	10.52%	9.20%	13.24%	9.12%	11.62%	10.68%	10.47%
Number of reports	1,160	1,120	1,088	658	1,411	1,377	1,385

Figure 13. *Percentages of current time use (leisurely vs. productive) and leisure guilt during leisure across a week*



In line with the fact that people have longer leisure time on the weekends than on weekdays, the percentage of leisurely (over productive) time was higher on the weekend than on the weekdays. Among the weekdays, Monday and Friday showed the highest percentage of leisure time.

Interestingly, when examining the prevalence of leisure guilt, the level of leisure guilt during the weekends was neither noticeably higher nor lower than that of the weekdays, despite the extended leisure time on weekends or the cultural norm surrounding relaxing weekends.

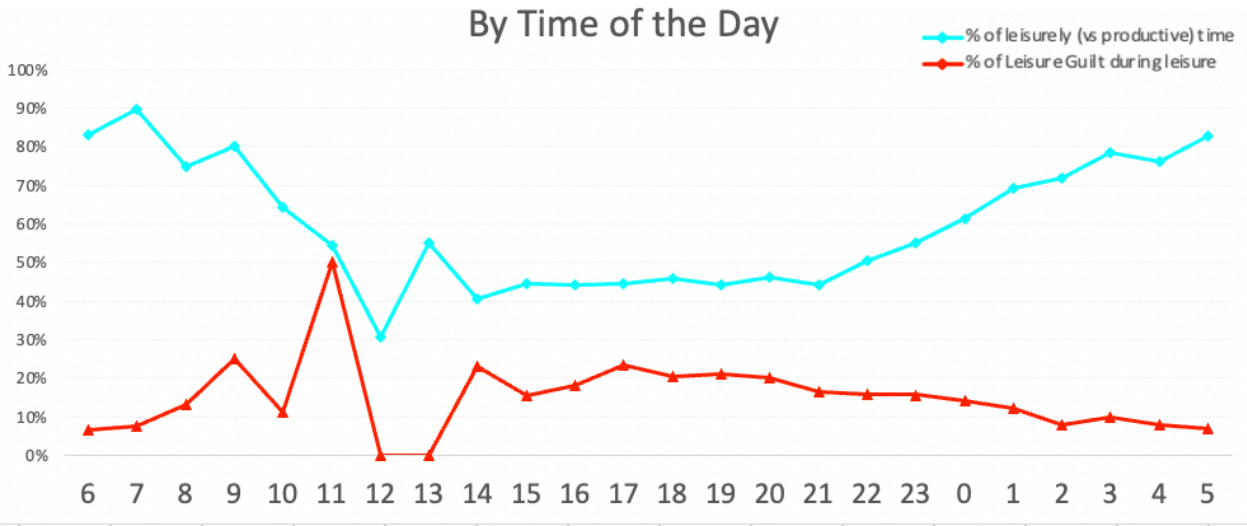
Another notable pattern is that there seems to be a spike in leisure guilt on Wednesday. Wednesday is in the middle of the work week, and is often considered by many as a day that is difficult to stay productive or focused ("Hump day"). Thus, it is interesting that leisure guilt peaks on Wednesday, calling for future investigation into the phenomenon of "(Leisure) Guilty Wednesday."

Daily patterns of Leisure (vs. Productive) time and leisure guilt. Table 5 below contains the percentage of responding as Leisurely (vs. Productive) for the current activity, and among the leisurely reports (n = 6,497), the percentage of feeling leisure guilt, and the number of reports across the time of the day. Figure 14 shows the daily patterns.

Table 5. *Percentages of current time use (leisurely vs. productive) and leisure guilt during leisure across a day*

Time	**6am**	**7am**	**8am**	**9am**	**10am**	**11am**
% of Leisurely time	83.0%	89.8%	75.0%	80.0%	64.3%	54.5%
Number of reports	253	59	20	10	14	11
% of Leisure Guilt	6.7%	7.5%	13.3%	25.0%	11.1%	50.0%
Number of reports	210	53	15	8	9	6
	12pm	**1pm**	**2pm**	**3pm**	**4pm**	**5pm**
% of Leisure time	30.8%	55.0%	40.6%	44.4%	44.2%	44.4%
Number of reports	13	20	32	347	561	617
% of Leisurely Guilt	0.0%	0.0%	23.1%	15.6%	18.2%	23.4%
Number of reports	4	11	13	154	247	273
	6pm	**7pm**	**8pm**	**9pm**	**10pm**	**11pm**
% of Leisurely time	45.9%	44.3%	46.2%	44.3%	50.6%	55.0%
Number of reports	857	892	902	899	876	941
% of Leisure Guilt	20.4%	21.2%	20.0%	16.6%	16.0%	15.7%
Number of reports	392	392	415	397	438	517
	12am	**1am**	**2am**	**3am**	**4am**	**5am**
% of Leisurely time	61.3%	69.1%	71.7%	78.4%	76.2%	82.6%
Number of reports	801	901	732	866	558	265
% of Leisure Guilt	14.2%	12.4%	8.0%	10.0%	8.0%	6.9%
Number of reports	487	615	522	677	424	218

Figure 14. *Percentages of current time use (leisurely vs. productive) and leisure guilt during leisure during a day*



Examining the number of reports, it is noteworthy that a large proportion of reports were collected during time outside the usual work hours (9 am to 5 pm) and the commuting time to and from work. It seems that many of the reports were collected after work, especially between the afternoon and early morning (from 3 pm to 7 am). This may be partly due to because participants were able to take the surveys in addition to the six ESMira notifications they receive during the day (9 am to 10 pm).

One note of caution in the interpretation of the leisure guilt pattern is that there were considerably fewer reports collected around 8 am to 2 pm. In general, people seem to spend time most leisurely during late night to early morning (around 1 am to 8 am) but feel the lowest level of leisure guilt. This range of time seems to coincide with the normative sleep schedule (Ohayon et al., 2004)—suggesting the possibility that when people are in bed during the normative sleeping hours, they are less likely to feel leisure guilt. Another interesting explanation for this pattern—low leisure guilt during the night-early morning—would be that leisure guilt may relate to circadian rhythms. Research finds that for most living organisms, their psychological, physical, and behavioral processes naturally respond to light and dark (Panda et al., 2002;

Vitaterna et al., 2001). This biological clock influences various human functioning and behaviors, including hormone release, eating, digestion, sleep, alertness, and pain, among many others (Panda et al., 2002; Reppert & Weaver, 2001). Therefore, in future research, it will be interesting to apply different levels of lenses (e.g., psychosocial, biological) to investigate how leisure guilt pans out across different times of the day.

3. Who is more susceptible to feeling leisure guilt?

I investigated individual and demographic factors that could make people prone to feel leisure guilt. In particular, Study 2b findings revealed that status anxiety was positively associated with leisure guilt, such that the higher status anxiety people have, the more they feel leisure guilt. Study 2a findings showed that the level of leisure guilt differs based on various demographics (e.g., age, income, ethnicity, work status). Based on these results, I tested whether status anxiety and basic demographic factors (gender, age, household income, subjective SES, ethnicity, and work status) predicted feeling leisure guilt during leisure in daily life.

Status anxiety. Replicating Study 2b, feeling greater anxiety about one's socioeconomic standing in society was associated with greater likelihood of feeling leisure guilt during leisure [coefficient = 0.04, *SE* = 0.01, 95% CI (0.02, 0.05), *df* = 293.84, *t* = 6.11, $p < .001$]. And this effect held significant when accounting for various demographic factors (i.e., subjective SES, household income, age, gender, race), coefficient = 0.02, *SE* = 0.01, 95% CI (0.01, 0.03), *df* = 214.84, *t* = 2.49, *p* = .014. Furthermore, in line with the effects of leisure guilt, status anxiety was associated with reduced enjoyment of leisurely moments [coefficient = -0.15, *SE* = 0.02, 95% CI (-0.19, -0.11), *df* = 162.14, *t* = -7.11, $p < .001$], less feeling good about the current time use [coefficient = -0.18, *SE* = 0.02, 95% CI (-0.23, -0.14), *df* = 173.71, *t* = -7.70, $p < .001$], feeling worse about the current time use [coefficient = 0.18, *SE* = 0.02, 95% CI (0.14, 0.22), *df* = 300.19,

$t = 9.65$, $p < .001$], and lower self-worth [coefficient = -0.21, $SE = 0.03$, 95% CI (-0.26, -0.16), $df = 299.43$, $t = -8.47$, $p < .001$]. However, unlike leisure guilt, status anxiety did not predict the amount of leisurely (versus productive) time [coefficient = 0.01, $SE = 0.01$, 95% CI (-0.01, 0.02), $df = 287.13$, $t = 0.94$, $p = .35$], nor did it predict greater willingness to engage in productive activity next when currently in leisure [coefficient = -0.01, $SE = 0.01$, 95% CI (-0.03, 0.004), $df = 284.90$, $t = -1.50$, $p = .13$].

Gender. Gender (female: 1, male: 0) was not associated with the amount of time spent leisurely (vs. productively), coefficient = -0.01, $SE = 0.02$, 95% CI (-0.05, 0.03), $df = 237.50$, $t = -0.67$, $p = .50$]. Females reported a greater tendency to feel leisure guilt in general than males when measured on the Leisure Guilt Scale ($r = .27$, $p < .001$), and they indeed felt leisure guilt more frequently during leisure, coefficient = 0.08, $SE = 0.02$, 95% CI (0.04, 0.13), $df = 216.64$, $t = 3.90$, $p < .001$].

Age. Age did not predict the amount of time spent leisurely (vs. productively), coefficient = -0.001, $SE = 0.001$, 95% CI (-0.003, 0.000), $df = 282.12$, $t = -1.44$, $p = .15$]. Age was negatively correlated with people's tendency to feel leisure ($r = -.27$, $p < .001$). Confirming this, older people felt less leisure guilt relative to younger people during leisure, coefficient = -0.002, $SE = 0.001$, 95% CI (-0.004, -.001), $df = 65.01$, $t = -2.51$, $p = .015$].

Household income. Household income was negatively associated with the amount of time spent leisurely (vs. productively), coefficient = -0.01, $SE = 0.004$, 95% CI (-0.02, -.000), $df = 265.42$, $t = -2.06$, $p = .04$]. Household income was not significantly correlated with levels of leisure guilt measured on the Leisure Guilt Scale ($r = -.08$, $p = .21$), but it did negatively predict the frequency of leisure guilt during leisure in daily life. People who have high household

income were less likely to feel leisure guilt during leisurely moments, coefficient = -0.01, *SE* = 0.004, 95% CI (-0.02, -.003), *df* = 175.61, *t* = -2.65, *p* = .009].

Subjective SES. Subjective SES was negatively linked to the amount of time spent leisurely (vs. productively), coefficient = -0.01, *SE* = 0.01, 95% CI (-0.02, -.003), *df* = 295.73, *t* = -2.52, *p* = .012]. Unlike Study 2a findings, here in Study 3, subjective SES was significantly correlated with leisure guilt tendency (*r* = -.14, *p* = .01). Similar to household income, subjective SES negatively predicted experienced leisure guilt, such that those higher in SES tend to feel it less during leisure, coefficient = -0.01, *SE* = 0.01, 95% CI (-0.03, -.001), *df* = 288.64, *t* = -2.15, *p* = .033].

Ethnicity. Study 2a findings showed that Asians reported greater levels of leisure guilt relative to other ethnicities. However, in Study 3, Asians did not show higher leisure guilt relative to other ethnic groups (*r* = -.02, *p* = .76), and did not feel leisure guilt more frequently during leisure, coefficient = -0.003, *SE* = 0.04, 95% CI (-0.08, 0.07), *df* = 22.86, *t* = -0.08, *p* = .94]. Also, compared with other ethnic groups, Asians did not differ in their amount of leisurely over productive time, coefficient = -0.03, *SE* = 0.04, 95% CI (-0.10, 0.04), *df* = 21.03, *t* = -0.77, *p* = .45].

Work status. Studies 1b and 2a showed that students showed significantly higher levels of leisure guilt tendency than the general public. Indeed, also in Study 3, students reported higher leisure guilt tendencies relative to other work status groups (e.g., employed full time, employed part-time, unemployed looking for job; *r* = .19, *p* < .001). The effect of student membership on leisure guilt tendency was significant after controlling for age (*b* = 1.10, *SE* = 0.98, β = .15, *p* = .002), suggesting that the effect may largely be driven by the student membership than age (*b* = -.002, *SE* = 0.001, β = -.09, *p* = .06). Likewise, compared to other work status groups, students

were more likely to have felt leisure guilt during the daily leisure moments, coefficient = 0.09, *SE* = 0.04, 95% CI (0.003, 0.18), *df* = 277.31, *t* = 2.03, *p* = .04. However, students did not differ in the amount of time spent leisurely compared with other work status groups, coefficient = 0.02, *SE* = 0.04, 95% CI (-0.05, 0.10), *df* = 278.14, *t* = 0.62, *p* = .53].

Together, these findings suggest that the tendency to experience leisure guilt during leisure may significantly vary across individual and demographic factors. Given the downstream consequences of leisure guilt on psychological and physical well-being (Study 2b), it will be important to investigate the risk factors for leisure guilt, and how to address them. Furthermore, given the differences in the level of leisure guilt across various demographics, I expect future research across multiple disciplines (e.g., psychology, sociology, education, health science) can build upon these findings in meaningful ways.

4. What are the consequences of feeling leisure guilt?

What are the consequences of feeling leisure guilt while engaging in leisure? Studies 1a-2b finds that people with high leisure guilt are more likely to avoid having leisure time (Studies 2a-2b), and when they do engage in leisure activities that make them happy, they tend to feel guilty at the same time (Studies 1a-1b), and they derive less enjoyment from daily leisure activities (Studies 2b). Based on this, I hypothesized that feeling leisure guilt in vivo would predict lower enjoyment of the current activity and feeling less positive and more negative about spending time on the current activity.

Furthermore, past research on the emotion of guilt sets the stage for additional side effects of feeling leisure guilt. Research on guilt finds that guilt is one of the self-conscious emotions that entails negative self-reflection and self-evaluation (Tangney et al., 2007), and that arises when one's behavior falls short of personal or societal standards (Amodio et al., 2007).

When there is an opportunity to amend the wrong, guilt often serves as a motivator for reparatory behaviors (Amodio et al., 2007; Baumeister et al., 1995). Applying these functions of the emotion of guilt to leisure guilt, I hypothesized that feeling leisure guilt during leisure would be associated with lower self-worth. Furthermore, as people have subsequent time to amend their "wrong" (in this case, having spent time on leisure), I predicted that feeling leisure guilt (vs. not feeling leisure guilt) during leisure would lead to a greater likelihood of spending subsequent time productively.

Analyses and Results

Global happiness. First, I ran a random-intercept, random-slope multilevel model to test whether feeling leisure guilt predicts global happiness. When people are engaging in leisure, feeling leisure guilt was associated with reduced happiness [coefficient = -1.02, *SE* = 0.08, 95% CI (-1.18, -0.86), *df* = 185, *t* = -12.6, $p < .001$], which replicates Study 2b results.

Enjoyment. To test how leisure guilt shapes enjoyment, a random-intercept, random-slope multilevel model was calculated. As theorized, when spending time on leisure, feeling leisure guilt was associated with lower enjoyment of the current activity [coefficient = -0.72, *SE* = 0.05, 95% CI (-0.82, -0.63), *df* = 187, *t* = -14.6, $p < .001$], replicating the findings of Study 2b.

Feeling good. I conducted a multilevel model with random-intercept and random-slope to test the effects of leisure guilt on positive affect. In line with my prediction, feeling leisure guilt was associated with reduced feeling good about spending time on the current activity [coefficient = -1.16, *SE* = 0.06, 95% CI (-1.27, -1.05), *df* = 194, *t* = -20.6, $p < .001$].

Feeling bad. A multilevel model with random-intercept and random-slope was fitted to test the effects of leisure guilt on negative affect. As predicted, during leisure, feeling leisure

guilt was linked to greater negative feelings about spending time on the current activity [coefficient = 1.55, *SE* = 0.06, 95% CI (1.44, 1.66), *df* = 176, *t* = 28.4, *p* < .001].

Self-worth. I performed a multilevel model with random-intercept and random-slope to examine if leisure guilt predicts reduced self-worth. As predicted, when people felt leisure guilt during leisure, they reported lower self-worth [coefficient = -1.01, *SE* = 0.05, 95% CI (-1.10, -0.92), *df* = 181, *t* = -21.5, *p* < .001].

Subsequent time use (self-report and actual). A random-intercept and random-slope multilevel model was calculated to examine how leisure guilt shapes subsequent time use. As hypothesized, feeling leisure guilt was associated with greater likelihood of reporting that they will engage in productive (over leisurely) activities for their subsequent time use [coefficient = -0.30, *SE* = 0.02, 95% CI (-0.34, -0.25), *df* = 164, *t* = -13.3, *p* < .001]. However, these findings rely on the self-report measure (i.e., "When you are done with the current activity, what are you planning on doing next? Is what you are going to do next…:" Options: Productive or Leisurely) and thus, may not comport with actual behaviors. Does feeling leisure guilt during leisure associated with *actual* subsequent productive time use?

To investigate whether feeling leisure guilt predicts the likelihood of at least spending one time productively later that day, I ran logistic multilevel regression analyses (with logit links) following the procedures of past research (Hofmann et al., 2014). Consistent with the self-report findings, previously feeling leisure guilt (vs. no leisure guilt) during leisurely moments was associated with a greater likelihood of spending time productively at least once later that day ($B_{\log}$ = 0.21, *SE* = 0.07, *p* = .005).

Overall, these findings were in line with my predictions: feeling leisure guilt was linked to lower happiness and less enjoyment of current leisurely moments, greater negative affect and

less positive affect for the current time use, lower self-worth, and greater likelihood of spending subsequent time productively.

5. How do people with high leisure guilt feel when spending time leisurely vs. productively?

As detailed above, findings show that feeling leisure guilt during leisure was associated with lower happiness, poorer leisure experience, and higher preoccupations with spending time productively for the rest of the day.

Here, I aimed to investigate the individual differences in the tendencies to feel leisure guilt (i.e., trait leisure guilt). I examined 1) whether the negative impacts of (state) leisure guilt would be intensified for individuals with high leisure guilt (trait). In addition, I tested 2) whether people high in leisure guilt indeed spend less time on leisure and more time productively, and 3) whether they are actually more productive. Lastly, I tested 4) whether spending time *productively* had positive impacts on people with high leisure guilt.

Results

Do people with high leisure guilt spend time less leisurely (and more productively)? People high in leisure guilt reported lower overall happiness [coefficient = -0.21, *SE* = 0.05, 95% CI (-0.30, -0.11), *df* = 213, *t* = -4.19, $p < .001$]. Results of the multilevel model with random intercept and slope reveal that the higher leisure guilt people reported, the more they spent time productively over leisurely [coefficient = -0.01, *SE* = 0.01, 95% CI (-0.02, -0.004), *df* = 201, *t* = -2.73, $p < .001$]. These results were in line with Study 2a findings that high leisure guilt was associated with greater willingness to spend time on work and less time on leisure.

Are people with high leisure guilt actually more productive? To estimate the level of actual productivity of participants, I used the number of daily surveys completed as an index of productivity. This is because participants were told at the beginning of the study that the more

daily surveys they completed, the bigger bonus they would receive. Thus, I used the number of completed surveys as an index of productivity (M = 41.21, SD = 9.82).

Interestingly, leisure guilt did not predict greater productivity (b = .17, SE = 0.36, β = .03, p = .63), suggesting that even though people high in leisure guilt are concerned with productivity, this may not directly translate into actual outcomes or productivity—at least within this study context. However, given that the number of completed surveys was an indirect indicator of productivity, it will be important to reexamine the relation between leisure guilt and productivity using improved measures in future investigations.

During leisurely times. Leisure guilt tendency did not predict whether people were spending leisure time alone or with others [coefficient = -0.006, SE = 0.008, 95% CI (-0.02, 0.01), df = 170, t = -0.73, p = .47].

As predicted, when spending time leisurely, higher (trait) leisure guilt was associated with greater likelihood of feeling (state) leisure guilt [coefficient = 0.05, SE = 0.01, 95% CI (0.04, 0.06), df = 235, t = 9.84, p < .001], lower enjoyment of the current activity [coefficient = -0.08, SE = 0.02, 95% CI (-0.11, -0.04), df = 301, t = -3.78, p < .001], reduced positive affect [coefficient = -0.13, SE = 0.02, 95% CI (-0.17, -0.08), df = 203, t = -5.74, p < .001], higher negative affect [coefficient = 0.17, SE = 0.02, 95% CI (0.14, 0.20), df = 310, t = 10.1, p < .001], lower self-worth [coefficient = -0.15, SE = 0.02, 95% CI (-0.20, -0.10), df = 204, t = -6.23, p < .001], and greater willingness to spend time productively for the next activity [coefficient = -0.04, SE = 0.01, 95% CI (-0.06, -0.02), df = 160, t = -4.91, p < .001]. These patterns of findings remain robust when controlling for covariates, including guilt-proneness, age, gender, ethnicity, household income, education level, and subjective socioeconomic status.

During productive times. Then, would spending time productively make people with high leisure guilt feel better? When people with high leisure guilt were spending time productively, they did not report lower enjoyment [coefficient = -0.04, *SE* = 0.02, 95% CI (-0.09, 0.01), *df* = 179, *t* = -1.66, *p* = .10] and did not feel better about spending time on the current activity [coefficient = -0.01, *SE* = 0.03, 95% CI (-0.06, 0.04), *df* = 201, *t* = -0.31, *p* = .76]. Also, higher trait leisure guilt was associated with greater negative feelings about spending time on the current activity [coefficient = 0.06, *SE* = 0.02, 95% CI (0.03, 0.10), *df* = 294, *t* = 3.67, *p* < .001], lower self-worth [coefficient = -0.07, *SE* = 0.03, 95% CI (-0.12, -0.02), *df* = 200, *t* = -2.69, *p* = .008], but did not predict willingness to engaging in productive activity next [coefficient = -0.004, *SE* = 0.01, 95% CI (-0.02, 0.01), *df* = 181, *t* = -0.44, *p* = .66]. When accounting for relevant covariates (guilt-proneness, age, gender, ethnicity, household income, education level, subjective socioeconomic status), leisure guilt no longer predicted self-worth (*p* = .30) but was still associated with feeling bad about spending time on the current activity [coefficient = 0.08, *SE* = 0.02, 95% CI (0.03, 0.12), *df* = 195, *t* = 3.16, *p* = .002]. These findings suggest that spending time productively did not particularly make people high in leisure guilt feel good or enjoy the activity.

Leisure guilt and subsequent productive time use. Would people with high leisure guilt tendencies be more likely to spend time productively next after they engage in leisure? Results of logistic multilevel analyses revealed that the interaction between trait leisure guilt and current leisurely (vs. productive) time use was not significant (*p* = .62). However, the main effects of trait leisure guilt and current leisurely time use were both significant, such that trait leisure guilt predicted greater likelihood of productive time use later ($B_{\log}$ = 0.34, *SE* = 0.09, *p* < .001), and so did current leisurely time use ($B_{\log}$ = 0.21, *SE* = 0.06, *p* < .001). Next, I tested whether trait

leisure guilt moderates the link between state leisure guilt and subsequent productive time use. Similarly, the interaction between trait leisure guilt and state leisure guilt was non-significant, $p = .31$. Examining the main effects, higher trait leisure guilt was associated with greater probabilities of productive time use later ($B_{\log} = 0.35$, $SE = 0.09$, $p < .001$), whereas state leisure guilt marginally predicted subsequent productive time use ($B_{\log} = 0.31$, $SE = 0.17$, $p = .07$).

These results were in line with my predictions that people high in leisure guilt would be more likely to spend time productively after leisure, as a way to assuage their guilty feelings by reparative time use. Interestingly, however, the interaction effects between trait leisure guilt and current time use on leisure guilt were non-significant. Perhaps these results were confounded by other factors, such as types of leisure activities (e.g., solo vs. with others) or time spent on leisure activities. Future investigations will be needed to reexamine the moderating effect of trait leisure guilt.

Productive time use by "working" or other general activities. As shown in Figure 11, perceiving time being spent as productive could be associated with vastly different kinds of activities, ranging from Working to Doing housework and Taking care of children. Therefore, I next tested whether the type of productive activities would create a divergent pattern. In particular, I focused on whether the activity that was directly related to economic output (i.e., Working) would influence the results. I was interested in testing whether people high in leisure guilt would feel good about the current use of time when spending time "working," and not productive activities in general (e.g., housework). But I had no strong a priori predictions.

I extracted the data for "working" using the current activity variable ("What are you doing right now?"). If the option "working" was solely chosen or chosen with other options (e.g.,

Working and Home-computer), I coded it as 1, and responses that did not contain the option Working were coded as 0. [Working: 23.4% (n = 2,689), Non-working: 76.6% (n = 8,798)].

Spending time productively by "working" showed a similar trend to that of general productive activities. Even when being productive by "working," people high in leisure guilt felt bad about the current time use [coefficient = 0.07, SE = 0.02, 95% CI (0.03, 0.12), df = 261.24, t = 3.20, p = .002] and showed lower self-worth [coefficient = -0.06, SE = 0.03, 95% CI (-0.11, -0.002), df = 170.39, t = -2.02, p = .045]. Similarly, leisure guilt did not predict enjoyment [coefficient = -0.03, SE = 0.03, 95% CI (-0.08, 0.03), df = 160.84, t = -0.97, p = .33], feeling good about the current time use [coefficient = 0.003, SE = 0.03, 95% CI (-0.06, 0.06), df = 175.63, t = 0.09, p = .93], and willingness to engaging in productive activity next [coefficient = -0.004, SE = 0.01, 95% CI (-0.02, 0.01), df = 208.74, t = -0.45, p = .66].

These findings imply that the types of productive activities did not significantly influence how people with high leisure guilt feel and think during productive time use. Whether the high leisure guilt people were working or engaging in other productive activities, they still feel bad about the current use of time and are less satisfied with themselves. However, at the very least, currently spending time productively seems to help them avoid feelings of (leisure) guilt, which in turn, assuages the preoccupations that they *should* spend time productively next.

General Discussion

Leisure time is indispensable. A rich body of literature shows that having quality leisure time is pivotal to psychological and physical well-being, whereas lack of leisure is detrimental to health, well-being, productivity, and overall human functioning (Derks et al., 2015; Kuykendall et al., 2015; Sonnentag, 2012). Given the crucial role of leisure in shaping our daily lives, it is

important that we understand attitudes or values that undermine the quality and quantity of leisure experience.

In the current dissertation, I developed a novel psychological construct—leisure guilt—which refers to a state or feeling of guilt, anxiety, or distress for spending time leisurely instead of productively. Across five studies, I investigated how leisure guilt relates to how people think, feel, and behave during their leisure time. Specifically, I investigated whether people with higher leisure guilt were more likely to avoid having leisure time. And when they did engage in leisure, I examined whether people high in leisure guilt would derive less enjoyment from the leisurely moments, feel worse about themselves for spending time on leisure, and whether they attempt to compensate for having leisure time by spending time productively next.

To examine the phenomenon of leisure guilt, in Study 1a (general adult sample) and Study 1b (college sample), I first started by examining what leisure activities make people happy and/or guilty by using Natural Language Processing techniques. Results of text analyses indicated that there was a significant overlap between leisure activities that make people happy (e.g., video games, watching TV, watching movies) and activities that make people feel guilty for wasting time (e.g., video games, watching TV, social media). Unexpectedly, a considerable proportion of participants reported overlapping activities for happy and guilty leisure activities (Study 1a adult sample: 25% overlap, Study 1b college sample: 36.6% overlap). In addition, people who were high in leisure guilt were more likely to show an overlap between happy and guilty activities, suggesting the possibility that they may be more prone to feeling leisure guilt while engaging in activities they enjoy.

In Study 2a, I developed a measurement—the Leisure Guilt Scale—to assess the degree to which individuals feel guilty for spending time leisurely instead of productively. The Leisure

Guilt Scale consists of 4 items (e.g., "I feel guilty when I'm spending time on leisure rather than work") and showed good psychometric properties (α = .93). With the Leisure Guilt Scale, I examined how leisure guilt relates to ideal time use and time spent on leisure. As predicted, higher leisure guilt was associated with greater willingness to reduce one's leisure time, and spend more time on paid work. Contrary to my predictions, however, leisure guilt was not linked to the amount of daily leisure time. These findings suggest that people high in leisure guilt wish to spend their time more productively and less leisurely, but it may not necessarily predict the amount of leisure time.

Extending the findings from Study 2a, in Study 2b, I demonstrated the discriminant validity of the Leisure Guilt Scale by showing that leisure guilt predicted lower enjoyment of recalled last leisure experience and higher tendency to avoid leisure, above and beyond relevant factors (i.e., guilt-proneness, leisure ethic, protestant work ethic, the Big Five personality factors). In addition, I examined potential antecedents and consequences of leisure guilt, and found that feeling anxious about one's socioeconomic standing in society (i.e., status anxiety) positively predicted leisure guilt, which in turn was associated with worsened psychological (stress, anxiety, subjective well-being) and physical (self-rated health) well-being.

Lastly, in Study 3, using the Experience Sampling Method (ESM), I investigated how leisure guilt plays out in people's everyday lives. ESM findings demonstrated that, overall, people reported spending time more leisurely (57.1%) than productively (42.9%) and reported greater happiness during leisure time than productive time. Across the reports collected during leisurely moments, 14.3% indicated feeling leisure guilt, while 85.7% did not. In particular, when people were having leisurely time with others as opposed to having solo leisure time, it was associated with reduced likelihood of feeling leisure guilt. Furthermore, results indicated

that the tendency to feel leisure guilt during leisure significantly differs across individual and demographic factors, replicating Study 2a findings. For instance, people who were worried and preoccupied with their current socioeconomic standing in society (status anxiety) felt greater leisure guilt during leisurely moments, and so did younger people, females, students, and people with lower household income and subjective SES.

Turning to the central hypotheses guiding this investigation, ESM findings showed that feeling momentary leisure guilt during leisure was associated with reduced enjoyment of the current leisurely moments. Also, leisure guilt was related to greater negative affect and reduced positive affect for spending time on the current activity, lower self-worth, and higher willingness to spend time productively next. These findings were in line with Study 2b findings which showed that the tendency to feel leisure guilt was associated with reduced enjoyment for the last leisure experience people had.

Lastly, I examined how the dispositional tendency to experience leisure guilt relates to how people spend their time (leisurely vs. productively) and how they feel about their time use. Corroborating Study 2b results on the positive relationship between leisure guilt and leisure avoidance, ESM results showed that the higher leisure guilt people reported, the more they spent time productively over leisurely. In line with my predictions, when people with high leisure guilt were engaging in leisure, they reported greater likelihood of feeling (state) leisure guilt during leisure, greater negative affect and reduced positive affect for spending time on the current activity, lower self-worth, and higher willingness to spend time productively next—suggesting that people high in leisure guilt enjoy their leisure less, and feel bad about engaging in it.

I further examined if people with high leisure guilt report more enjoyment and positivity when engaging in productive activities. Interestingly, the answer seems to be *no*. Even when

spending time productively, those high in trait leisure guilt reported greater negative feelings about spending time on the current activity and lower self-worth. And this trend did not significantly differ whether they were spending time productively by working or by engaging in other productive activities (e.g., household work). However, currently engaging in productive activities did not predict productive time use next. This suggests that even though spending time productively may not boost current enjoyment or positive feelings about the activity, it at least helps people to feel *less* compelled to spend time productively next.

Across diverse methodologies and samples, I find converging evidence that leisure guilt is a prevalent psychological phenomenon and a robust predictor of important psychosocial outcomes, ranging from leisure experience to well-being and time use.

Limitations and Future Directions

The current research has several limitations that call for future investigation.

Causality. It is important to note that although the findings across the five studies show overall converging results that leisure guilt was associated with reduced enjoyment and negative feelings during leisure, they are correlational results and thus do not provide insight into causality. For example, though status anxiety was a specific predictor of leisure guilt, I cannot ascertain if it is indeed, as I have theorized, a precursor of leisure guilt. It will be important to test in future studies to examine the causal effect by manipulating status anxiety, and test whether status anxiety increases leisure guilt. Further, I also found that leisure guilt was associated with lower enjoyment of leisure, greater negative feelings about oneself, and the current time use. But these results, too, are correlational. To confirm whether leisure guilt negatively impacts leisure experience, it will be important to develop experimental designs that manipulate leisure guilt, and verify whether leisure guilt has causal impacts on the quality and

quantity of leisure experience. One example study could be to manipulate leisure guilt by randomly assigning participants to write about either a recent leisure time in which they felt leisure guilt (leisure guilt condition) or just a recent leisure experience (control condition). I predict that participants who were induced to recall a leisure guilt experience (vs. neutral leisure experience) will show lower enjoyment of the leisurely moments and greater negative feelings about themselves and the time use.

Cultural variations. In the current research, participants exclusively consisted of adults from the United States. The United States is a society where hard work, individual effort, and work ethic are highly cherished and valued (Celniker et al., 2023; Gao, 2015). However, not all cultures "live to work." For example, some countries in Europe (e.g., Spain, France, and Italy) are known for their emphasis on leisure and relaxing lifestyles (Samuel, 2022). Recently, Spain was the first country to launch a national trial of a 4-day work week (Abend, 2021), and Italy and France have one of the best work-life balance among developed countries (OECD, 2020). These cultural differences in how society places value on work and leisure were borne out by some research. A study found that U.S. participants inferred higher status from targets who signaled busyness and overwork—whereas Italian participants inferred lower status from targets' signals of busyness, instead viewing signs of leisurely lifestyle as a marker of high status (Bellezza et al., 2016). Given these cultural variations in views on leisure and work, I expect that people who live in cultures where leisure is often more prioritized above work may experience leisure guilt to a lesser degree in their daily life relative to those living in cultures where hard work and productivity are deemed virtuous (Gao, 2015). Examining the cultural generalizability and specificity of the impacts of leisure guilt will be an important next step. For example, future research can recruit American and French participants, and investigate whether the relationships

between leisure guilt and downstream consequences are stronger for Americans relative to French.

Furthermore, research on mixed emotions (Larsen & McGraw, 2011) suggests another avenue for future research on leisure guilt. By definition, leisure guilt could be categorized as a type of mixed emotion (e.g., bittersweet, love-hate, happiness-sadness) as guilt (negative) may arise while engaging in enjoyable (positive) leisurely moments. Indeed, in Studies 1a and 1b, substantial proportions of participants (up to 36%) reported that leisure activities that make them feel the most happy are also their sources of guilt for wasting time. This suggests that people enjoy leisure but also can feel bad about it, like eating pizza on a diet is enjoyable but also feel bad while doing so. Research finds that this complexity of emotional experience may vary by culture. Findings indicate that cultural contexts play an important role in shaping emotional complexity, such that East Asians in general were more comfortable with mixed emotions than Americans (Schimmack et al., 2002; Williams & Aaker, 2002) due to the cultural background of Buddhism philosophies, dialectical thinking style, and holistic thinking style (Hong & Lee, 2010; Schimmack et al., 2002; Williams & Aaker, 2002). Building upon these findings, future research should investigate how cultural variations in emotional complexity may influence people's proneness to experience leisure guilt.

Measurements. Another limitation of the current research is that I only measured leisure guilt using self-report. Therefore, I cannot ascertain if I was measuring individuals' social values as opposed to an actual emotional experience of leisure guilt. Are people actually feeling leisure guilt or just saying they do? Perhaps one way to verify the experience of leisure guilt is to observe the neurobiological underpinnings of leisure guilt. Research using functional magnetic resonance imaging (fMRI) finds that guilt is associated with activations in the regions of the

right orbitofrontal cortex and paracingulate dorsomedial prefrontal cortex (Wagner et al., 2011). Given that I theorize that leisure guilt would arise when people feel guilty for spending time leisurely, I expect similar brain regions activated for guilt will also be the case for leisure guilt. Examining the neural correlates would strengthen the research on leisure guilt by providing strong evidence of the construct. Furthermore, neurobiological research can also examine leisure guilt in the context of mixed emotions, such as whether leisure guilt during leisure will be associated with simultaneous activations in brain regions for guilt and enjoyment (orbitofrontal cortex; Berridge & Kringelbach, 2015).

Productive use of time: specific to work or general productive activities? Currently, the Leisure Guilt Scale items specifically tap how guilty or bad people feel when engaging in leisure instead of "work" (e.g., I feel guilty when I'm spending time on leisure rather than *work*). However, Study 3 findings indicated that people higher in leisure guilt reported feeling worse about themselves when they were spending time "working" and also when engaging in other general productive, "Non-working" activities (e.g., household work). This suggests that leisure guilt may not strictly be limited to guilty feelings for not working *per se*, but perhaps non-productive use of time in general, which current Leisure Guilt Scale items may miss. Building on Study 3 findings, it may be worth making revisions to the current version of the Leisure Guilt Scale items, such that they could capture broader productive use of time as opposed to specific to the work component (e.g., I feel guilty when I'm spending time leisurely rather than *productively*).

Amount of time use. Although I measured participants' estimates of how many hours of daily leisure time they have, how they feel about their amount of leisure time (Studies 1a), their current use of time (i.e., leisurely or productively) and subsequent time use after leisure (Study

3), this information may not give an accurate picture of *how much time* people are spending on each of their daily activities. To further understand how leisure guilt relates to actual time use every day, future investigations may employ the Daily Reconstruction Method (Kahneman et al., 2004), which assesses how people spend their time on each of their daily activities and how they feel and think about those daily activities.

Less enjoyment or less enjoyable activities? Current findings provide converging evidence that leisure guilt is negatively associated with enjoyment. People with high leisure guilt tendencies reported reduced enjoyment of their recent leisure experiences (Studies 2a and 2b), and currently feeling leisure guilt (state leisure guilt) was associated with lower enjoyment of the current leisurely moments (Study 3). However, it is unclear whether people high in leisure guilt derive less enjoyment from the leisurely moments or they *choose* to engage in activities that may be less enjoyable. For example, do people higher in leisure guilt feel less enjoyment relative to those lower in leisure guilt when playing the same video games? Or do people high in leisure guilt choose to engage in leisure activities that are inherently less enjoyable and perhaps more productive (e.g., learning foreign languages; Keinan & Kivetz, 2011)? It will be important for future research to investigate and tease apart these different explanations.

COVID-19 pandemic. It is important to note that the data collection for the current research occurred during the COVID-19 pandemic. Since its outbreak, the COVID-19 pandemic has significantly reshaped how people's every day looks like in terms of work and leisure. For many, the increased remote working blurred the boundaries between work and non-work time with frequent emails, online meetings, and messages—stretching working hours till later hours (Mitchell, 2022; Robinson, 2022). Changes have also been observed in daily leisure time. The average hours spent on leisure and sports activities increased from 4.99 hours in 2019 to 5.53

hours in 2020, with the greatest increases in time spent Watching Television (3.05 hours) and Playing games and computer use for leisure (0.62 hours; U.S. Bureau of Labor, 2021). As watching TV and playing games were the top two activities that elicit guilt (also happiness) for engaging in them, as shown in Studies 1a-1b, the inadvertent increases in available leisure time during the pandemic may have led people to feel leisure guilt more frequently. It will be meaningful to revisit the current findings in the future by looking at how leisure time and leisure guilt unfold without the presence of the pandemic.

Practical Implications

Given the novelty and practical implications of the construct of leisure guilt, I expect that the current research can set the stage for many future investigations across various disciplines.

Performance and productivity. Results from Studies 2a, 2b, and 3 showed converging evidence that people with high leisure guilt wish to avoid spending time on leisure (Studies 2a, 2b), and actually do spend time more productively over leisurely in daily life relative to those with lower leisure guilt (Study 3). However, would abstinence from leisure due to thoughts about work effectively translates to better performance or productivity? It is plausible that feeling guilty during leisure due to preoccupations with work may lead people to cut their leisure, and use this time to enhance their performance or productivity. On the other hand, research on workaholism suggests an opposite possibility. Prior works show that workaholics ("the compulsion or the uncontrollable need to work incessantly"; Oates, 1971) did not show better performance or productivity in the long run, due to their heightened daily emotional exhaustion and workload (Balducci et al., 2021; Xu et al., 2021). In a similar line, it is possible that leisure guilt may not directly translate to improved performance or productivity, especially in the long run. Indeed, this was the case in Study 3, where dispositional leisure guilt was not associated

with greater productivity (i.e., the number of surveys taken, though note that this was an indirect proxy of productivity). In future studies, it will be interesting to investigate the short- and long-term effects of leisure guilt on performance and productivity using improved measures and diverse methodologies (e.g., longitudinal, experimental designs). For instance, would leisure guilt function as a motivator for achieving short-term goals (e.g., completing assignments due tomorrow) but work as a hindrance for long-term goals (e.g., graduating summa cum laude) due to greater burnout or psychological distress?

Health outcomes and behaviors. Past findings showed that poor leisure experience and negative views of leisure were associated with worse health outcomes, such as lower happiness, depression, anxiety, and stress (Tonietto et al., 2021). Extending these findings, Studies 2b and 3 findings demonstrate that feeling guilty for leisure due to thoughts about work predicted worse mental and physical health. It will be important to examine further how leisure guilt impacts various mental and physical health, in particular, among those who are susceptible to feeling leisure guilt as documented in Studies 2a and 3 (e.g., students, females, lower SES).

Furthermore, past works find that people who are highly preoccupied and obsessed with work showed poorer health behaviors, such as insufficient sleep and physical inactivity (Ng et al., 2007; Sussman, 2012). Likewise, as leisure guilt is associated with the pursuit of productivity, it is possible that it could undermine health-seeking behaviors. Indeed, ongoing research finds that leisure guilt predicted poor sleep quality, which in turn, was associated with worsened psychological and physical health (Koo & Götz, *in preparation*). Future research is needed on how leisure guilt can influence various health behaviors and outcomes.

Moralization of effort. Research finds that effort is moralized. People infer higher morality from those who put in great efforts, even in situations where these extra efforts do not

translate to better quality or economic value (Celniker et al., 2023). These findings seem to be reflected in contemporary American society, where hard work is highly cherished, and people who put in the hard effort are lauded. Indeed, this moralization of effort may be driving the "Workism" culture in the United States—the belief that work is not only a means to an end but also the essence of one's identity and life purpose (Thompson, 2019). Perhaps moralizing hard work and effort is what drives people's productivity concerns (e.g., "I should be working and be productive all the time"), thereby leading to disregarding leisure. In future research, it will be interesting to examine how individual-level beliefs about hard work and effort (e.g., effort moralization) and societal-level conceptions of hard work (e.g., beliefs about meritocracy, Workism culture) shape concerns about productivity and leisure guilt.

Leisure guilt intervention. Given the current findings on the negative associations between leisure guilt and psychological, physical well-being, it will be crucial to develop an intervention program to combat leisure guilt. A large body of intervention research demonstrates that cognitive-behavioral therapy (CBT) is a gold standard of psychological treatment (David et al., 2018). Drawing from the CBT literature, shifting people's views on leisure by informing the substantial consequences of leisure (or lack thereof) may help reduce leisure guilt. I expect that a successful leisure guilt intervention program can be applied in various settings, including clinical, school, or managerial contexts, which can contribute to the betterment of individual- and societal- well-being by enabling people to enjoy guilt-free leisure.

Conclusion

Who does not want to stop and smell the roses once in a while, even in this increasingly busy, fast-paced world? The current investigation alludes to the possibility that feeling guilty for leisure may sap away our everyday enjoyment—making us unhappy, unhealthy, and obsessed

with productivity. Given the grave consequences, future investigations are needed to shed light on the psychological phenomenon of “leisure guilt.”

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