

Why worry? Sex, Life History Speed and Metacognitive Beliefs as Predictors of
Worry

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Preface

The thesis statement and hypotheses of this graduate thesis were developed by the two authors, under the guidance of our supervisor, Leif Edward Ottesen Kennair. Analyses were also carried out by the two of us.

This thesis is part of a collaborative research project lead by Heitor B. F. Fernandes at Universidade Federal do Rio Grande do Sul, Departamento de Psicologia, Brazil. The two of us were responsible for collecting data for the Norway sample, whereas data from the two American samples were provided by our partners. Thus, data sets were exchanged between partners, but the hypotheses and analyses in this particular graduate thesis were developed and carried out by us.

We are grateful to our supervisor Leif Edward Ottesen Kennair for the inspiration and feedback he provided throughout the writing of this thesis. Heitor B. F. Fernandes does also deserve our gratitude, he has been like our second supervisor. We must also thank our friend, Maria Boer Johannesen, for thoroughly proofreading the thesis, and Kyrre Svarva, who helped us finalize the questionnaire and import responses into data files. Despite the great help of our supervisors, the process of writing this paper has not been easy, nor for our dear boyfriends who had to put up with us through several evenings, especially weekends, that have gone into completing this thesis. However, we are now happy to have accomplished our most comprehensive research project during our time at the Norwegian University of Science and Technology.

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Abstract

Worry is by some theories viewed as a decisive part of a successful way of dealing with life's problems. Other theories perceive worry as problem-focused rather than problem-solving cognitive processing. Complex patterns of traits, and thus behavior, among humans result from an interaction between environmental and cultural variations. The aim of this study was to compare the predictive power of sex of participant, strategies regarding how individuals invest resources in order to optimize evolutionary fitness, and metacognitive beliefs upon worry. Data were collected from a survey of a total of 813 individuals, including undergraduate students from both Norway and Midwestern U.S, and Americans from all four regions (specified by the US Census Bureau). Predictions from competing hypotheses derived from among other Life History (LH) theory, Metacognitive therapy, and biological theories of sex differences, were tested. Regression analyses indicate that metacognitive beliefs are the best predictors of worry when comparing sex, LH speed and metacognitions. However, the predictive strength of negative metacognitions upon worry was nearly halved after including emotional stability in the analysis, and the effect of positive metacognitions was slightly affected. In accordance with previous research, females reported more worry and metacognitive beliefs than men did. Mediation analyses revealed that slow LH speed was associated with less worry as mediated by negative metacognitive beliefs. When accounting for emotional stability, emotional stability predicted worry best. Culture was only associated with negative metacognitions. Our findings are relevant to theories about the nature of worry. Future research regarding the relationship between metacognitions and worry should consider the effect of emotional stability and culture on this association. Also, more research on the relationship between LH speed and worry is called for.

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Description of work distribution

We chose to cooperate on our graduate thesis, and throughout the process of writing this thesis we have aimed at dividing the workload as equal as possible. Both of us have been involved in nearly every paragraph and analysis in this thesis in order to assure quality throughout the paper, but also because it was important to us that we experienced ownership to the paper in its entirety. A precise description of individual contributions is therefore difficult. However, in the initial phase, we did have responsibility for different parts of the paper. For instance, Elin initially wrote about life history theory, whereas Regine wrote about metacognitive theory and biological theories of sex differences. Elin wrote about the three samples, and Regine described psychometrics that were used in our analyses. Regarding analyses, Elin investigated normality assumptions in the samples, and measured Cronbach's alpha for all variables in the Norwegian sample. She also carried out the bivariate correlation analyses, standard regression analyses, and the hierarchical regression analyses. Regine carried out the t-tests, and the mediational analyses. She is also the one who has drawn the tables and figures.

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1. THEORY

1.1 The Construct of Worry

There are two main types of worry: (1) pathological worry that leads to exacerbation of problems and increased anxiety, and (2) a more task-oriented, constructive process that may lead to actual problem solving and reduced anxiety (Davey, Tallis & Capuzzo, 1996). Positive assumptions about worry can make processes of worry resistant to change, especially if worry is viewed as a necessity in order to successfully deal with life's problems (Davey, Tallis, & Capuzzo, 1996). Borkovec, Robinson, Pruzinsky, and DePree (1982) define worry as "*a chain of thoughts and images, negatively affect-laden and relatively uncontrollable*". A common attribute made by worriers, is worry as a method of attempting to avoid future catastrophe (Borkovec & Inez, 1990). This appears to represent the cognitive aspects of anxiety, by representing an inward focus of attention (Borkovec, Robinson, Pruzinsky, & DePree, 1982; Borkovec & Inez, 1990). The capacity to be anxious by the thought of traumatic incidences, ahead of their actual occurrence (or recurrence), and further to be motivated to take realistic precautions against them, is a prominent, important, and useful psychological mechanism (Mowrer, 1939). Although this mechanism has been useful throughout evolutionary history, it can also lead to an overprediction of fear (Rachman, 2004, p. 16; Wells, 1995; Robichaud, Dugas, & Conway, 2003).

The key is to notice when worry is indispensable, something one must do to solve problems and to be prepared to manage obstacles. According to Wells (1995), the notion of intrusive cognitions is of great significance in accounting for differences between normal and clinical types of worries. He has suggested a meta-cognitive model for Generalized Anxiety Disorder (GAD) where worry is the cardinal construct, explaining the condition as a result of using worry as a coping strategy, and attempts to control worry. Unfortunately, this can lead to excessive anxiety or worry about a myriad of events or activities. Also, defense mechanisms usually accept a high rate of false positives, meaning that they can be activated when no real threat is present. This is called the *smoke detector principle* (Nesse, 2001). In general, people will begin to correct their prediction of future experiences only if their predictions of fear are repeatedly disconfirmed (Rachman, 2004, p. 10). This may contribute to sustained worry about predicted future experiences. results.

In general, worry causes avoidance behavior and seems most problem-focused (Kennair, 2014). The avoidance is not only directed towards events, but also towards

emotional in general, and anxious emotional experiences in particular (Borcover & Inez, 1990). In addition, avoidance behavior is correlated with high affect intensity and the personality trait neuroticism (MacDonald, 1995). In Borcover & Inez' study from 1990, they found a decline in imagery and increase in thought which seemed to characterize worry. This finding suggests that worry predominantly is a thought activity that includes a motivated avoidance of imagery processing. In another study, done by Davey, Hampton, Farrell and Davidson (1992), one found high correlations between measures of worry and psychological measures of trait anxiety, avoidance coping, responsibility for negative but not positive outcome, and a tendency to define events as threats. However, once levels of trait anxiety had been controlled for in a partial correlation analysis, worrying was significantly associated with more constructive psychological variables, such as problem-focused coping and information seeking (Davey., 1992).

1.2 Biological Theories of Sex Differences – An Evolutionary Biology Perspective

Early environmental influences enable alternative and mutually exclusive adaptive strategies. Asymmetries in mate selection and intrasexual competition have, among others, given rise to the hypothesis about psychological sex differences (Buss, 1994). As our body consists of different parts that solve different adaptive problems, we also have the solution to adaptive problems in our psyche. Evolutionary psychology proposes that the human mind, as the body, contains a number of mechanisms that have enabled us to solve various problems. The abilities to compete for mates and reproductive success, are variables which have contributed to the sex differences we are witnessing today. For example, research shows that men often use distraction as a coping strategy, while women often believe that worry and pervasive thought activity is the most effective strategy to solve problems (Bahrami & Yousefi, 2011; Nolen-Hoeksema & Morrow, 1993).

Ancestral females who managed to identify males with good investment capabilities would have greater possibilities regarding both survival and reproductive currencies than females who were indifferent (Buss, 1994). When taking a nine-month pregnancy and subsequent breastfeeding into consideration, neither good genes nor his current resources are sufficient to choose a male (Kruger & Nesse, 2006). Females who are not careful might be at risk of the male channeling his resources in the direction of another female, and to pursue short-term sexual opportunities with a variety of females. On the other hand, most males remain fertile throughout their lifespan, whereas fertility among females is steeply age graded.

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Further, males can never be 100 % certain of the fertilization since it occurs internally within the female. Therefore, ancestral males should have been more concerned with the adaptive challenge of identifying which potential partners were more fertile, and would thus profit from multiple partners to a bigger extent than females. One could reasonably assume a shortage of reproductively valuable females from a male's perspective, which makes competition a potent selection force. Since females invest more heavily in their offspring, and there never is a shortage of males willing to spread their genes, females are selected to be more particular in their choice of mates and are viewed as the more "valuable" sex. Therefore, one should expect higher male intrasexual competition than female intrasexual competition.

High competition leads to more risky behavior, and ultimately higher mortality rates, and give rise to a phenomena called the Male-to-Female Mortality Ratio (M:F MR) (Kruger & Nesse, 2006). Infant survival throughout the environment of evolutionary adaptation (EEA) has depended more upon maternal than paternal care and defenses, leading to a much stronger tendency among females to place a high value on protecting their own lives than males. This evolved mechanism in females may for example be expressed as a lower threshold for fear in situations involving threats of bodily injury compared to men (Campbell, 1999). Disproportion regarding reproductive payoffs of risky strategies, indicates that risky strategies have been the most adaptive solution for men to gain status and/or the resources needed to acquire a mate and produce vigorous offspring. It is important to notice that mortality risks do not exist in a vacuum, culture and social norms influence behavioral tendencies which result in differential mortality risks.

Natural selection interacts with both environmental and cultural variations, and bring about complex patterns of traits. An external cause of M:F MR is the different social pressures for boys and girls, where boys are encouraged to be tough and to hide or push away emotions such as anxiety, while girls are expected to be emotional and dependent of others. Other external causes, like homicide, suicide, and accidents, also contribute to the high male mortality relative to female mortality. According to Kruger and Nesse (2006), M:F MRs will be higher among groups that live in relatively dangerous and unpredictable environments. Levels of education, income, social status, and testosterone levels, are all possible variables which contribute to whether a male should shift towards risky, short-term strategies or less risky, long-terms strategies. A group which has neither substantial resources nor status, is the group of young males. It is not without reason that preferences for risk and competitiveness is

called the Young Male Syndrome by Wilson and Daly (1985).

In sum, one expects males to be more competitive and risk-taking than females because of the evolutionary development of masculine psychology, which further is based on sexual selection. Just like anxious individuals probably estimate the risk of danger as being higher than what non-anxious individuals do (Mathews, 1990), it is possible that females will estimate the risk of danger as being higher than what males will do. The well-known tendency of females to worry more than males (Robichaud, Dugas, & Conway, 2003; Bahrami & Yousefi, 2011; Mclean, Asnaani, Litz, & Hofmann, 2011), may in fact be explained by males being more risk-taking than females (Kennair, Bendixen & Buss, 2016). This suggests that worry might be best explained as a mechanism involved in risk-aversion and up-regulation of defenses.

1.3 Life History Theory – An Ultimate Explanation

Life History Theory

More recently, a different explanation on why we worry has been proposed. Life history (LH) theory is an evolutionary theory that aims to explain differences in behavior based on how we distribute our resources (such as energy, time, and attention) into different aspects of evolutionary fitness (e.g. to search for food, search for mates, reproduce, care for offspring, etc.) (Figueredo, Vásquez, Brumbach, & Schneider, 2004). Such resources are limited, and therefore a “trade-off” arises between the different domains of fitness, as spending resources in one domain equals a cost in a different domain. This brings about a situation where the individual must prioritize where to invest its resources in order to optimize fitness. There are many trade-offs throughout the developmental period of an organism, and one of the most important trade-offs is regarded as the switch from when the organism starts to prioritize reproduction over somatic growth (Copping, Campbell & Muncer, 2014). Schaffer (1983) calls this the General Life History problem, and it concerns how some individuals invest in somatic effort at the expense of a shorter reproductive period, while others prioritize earlier and more rapid reproduction at the cost of their own health and the quality of the offspring. This trade-off corresponds with whether one invests resources in a way that will yield payoff in the future, or if one invests resources in a manner that may yield more immediate payoffs. Which of these strategies the individual utilizes is proposed to be of significant importance for behavior and personality, and eventually also for psychological functioning and psychopathology, including worry (Del Giudice, 2014).

Within LH theory, whether one prefers to invest resources in long-term gains or more immediate gains is referred to as slow or fast LH speed. LH speed is a continuum ranging from slow to fast, and it aims to conceptualize the strategy an organism utilizes in order to meet the demands of their surroundings in an adaptive manner. Fast LH speed is associated with more rapid ontogenetic development, larger numbers of offspring, reduced parental investments, short-term sexual relations, and shorter lifespans, whereas slow LH speed is associated with the contrary (Del Giudice, 2014, p. 264). LH strategies are not believed to be voluntary choices, but rather a consequence of the surroundings the organism has evolved in and adapted to (West-Eberhard, 2003). Of particular importance is the degree of harshness and predictability of the environment, as these are regarded as essential cues that influence whether the individual develops slow or fast strategies (Brumbach, Figueredo & Ellis, 2009).

Environments with cues of increased morbidity and mortality (e.g. reduced food accessibility, extreme climate, increased prevalence of disease, predator threat) are defined as *harsh environments* (Brumbach, Figueredo & Ellis, 2009). Growing up and adapting to a harsh environment is further associated with the development of fast LH speed (Bereckzei & Csanaky, 2001). Harsh environments make rapid maturation more adaptive, in order to reproduce and thereby increase the chances of having offspring before dying (Stearns, 1992). Studies have shown that disparity of resources is one of the main predictors of fatal violence in the US and Canada (Daly, Wilson, and Vadev, 2001). Wilson and Daly (1997) also found that women from neighborhoods with shorter life expectancies gave birth at a younger age compared with women from neighborhoods with longer life expectancies. The authors argued that this was not due to lack of family planning, but rather a distinct type of family planning (Wilson & Daly, 1997). As mentioned earlier, not only the harshness of the environment is of importance but also the degree of predictability. When one cannot predict what kinds of obstacles the offspring must tackle to survive and carry on their genes, it is not advisable to invest large amounts of resources into only a few offspring and/or with only a very limited number of sexual partners (Stearns, 1992; Philippi & Seger, 1989).

On the contrary, in an environment with decreased levels of harshness, increased levels of predictability, and longer lifespans, the individual might be better off postponing their reproductive career and to be more selective regarding sexual partners and the number of offspring, and instead invest resources in a way that will be more beneficial in a long-term perspective. This includes behaviors that will maximize their chances of survival and the maintenance of good somatic health, and this can be obtained in many ways. An important

psychological trait related to this is risk aversion, i.e. the avoidance of situations that may yield big payoffs, but that at the same time represent a potentially large cost for the individual if the desired outcome is not obtained. Instead, slow LH speed is associated with the reliance on a more certain outcome that has a lower risk of e.g. losing valuable resources or getting injured, even though it may give a lower average payoff (Del Giudice, 2014).

Life history speed, psychopathology and worry

In his extensive article from 2014, Marco Del Giudice discusses life history speed and its functional connection with psychopathology. Mental disorders are complex biosocial phenomena with several different explanatory factors, but Del Giudice proposes how an individual's composition of life history traits may increase the likelihood of developing certain disorders through an indirect effect, with life history theory acting as a framework for organizing psychopathology and its associated traits along the slow-fast continuum. Del Giudice proposes several pathways in which life history speed can contribute to the understanding of psychological traits and psychopathology. Some will, however, argue that this is not a theory of individual differences but moreover a theory of how different species will allocate their resources through life (Kennair, 2014; Mishra & Gonzales, 2014). Psychopathology is a complex phenomenon of behavior, and requires acknowledgement of the influence of both stable individual differences and more acute situational or environmental factors (Mishra & Gonzales, 2014; Bell, Hankinson & Laskowski, 2009). LH theory might therefore only partly contribute to a better understanding of worry as a phenomenon. However, it is sufficient for our purposes, and we will therefore see how worry can be better understood in the light of these pathways.

One of Del Giudice's pathways is when a trait is biologically adaptive within a certain range, but becomes troublesome as the trait exceeds the limit of that range, with a subsequent drop in fitness. This can happen if a trait is frequently selected for (Nesse 2004), where a possible scenario is when two parents are high on the same trait (yet still within the adaptive range), and that their offspring inherit maladaptive levels of that trait. For instance, having a risk-detecting system that is sensitive to cues representing possible threats is adaptive and can contribute to survival, when within the adaptive range, but when this risk-detecting system is overly sensitive, it may lead to psychological distress. A different pathway is when traits and certain strategies are adaptive on average, but lead to maladaptive outcomes for particular individuals (Kennair, 2014; Cosmides & Tooby, 1999). E.g., defense mechanisms that are

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designed to protect the individual from harm, such as fear, can be adaptive on average, but for some individuals these mechanisms can be expressed in situations where they seem unnecessary (Nesse, 2005).

Worry is a central process in the Obsessive-Compulsive Spectrum of psychopathology in Del Giudice's (2014) model, which is a spectrum of psychopathology primarily characterized by patterns of compulsive, repetitive thoughts and/or behavior, usually associated with worry and anxiety. In this perspective, worry is part of a security motivation system, preventing the individual from potential low frequency threats, i.e. subtle and indirect cues of danger with no distinct feedback to determine whether the protective defenses should be maintained or terminated. This is associated with slow LH speed, as slow LH individuals should be more concerned with avoiding future danger than fast LH speed individuals because of the long-term resource investments that characterize slow life history strategies. Such precautionary defenses can be adaptive in the context of life history strategies, but if they reach a level of hypersensitivity they may cause psychological distress for the individual and even lead to psychopathology (Del Giudice, 2014).

Another well-known psychopathological condition associated with increased levels of worry, is *generalized anxiety disorder* (GAD), which is characterized by excessive and uncontrollable worry, accompanied by certain symptoms such as muscle tension, irritability, and sleep difficulties (Wells, 2005). In Del Giudice's (2014) framework, GAD is not considered independently, but rather mentioned in connection with depression, regarding the heritable genetic factors that depression and GAD have in common. Stress responsivity and its role in depression is considered to explain the somatic symptoms that may occur, but the cognitive activity of worry is not discussed in this context.

Del Giudice proposes a model where traits associated with different mental disorders are seen as initially adaptive mechanisms that increase evolutionary fitness. Worry can be understood as part of a security motivation system that can be adaptive in the context of a safe and predictable environment. Contrary to this, hypersensitive precautionary defenses may have negative impact on the psychological well-being of those affected. These hypersensitive precautionary defenses can result from e.g. exaggerated traits expressions, continued up-regulation of such defenses, and/or dysfunctional responses when faced with real or imaginary threats.

1.3 Metacognitive Theory – A Proximal Explanation

According to metacognitive theory, it is unlikely that worry involves actual problem solving (Wells & Morrison, 1994). In general, worry has a "what if" format and deals with uncertainty and insecurity associated with future events. Metacognitions seem to affect how much we worry, and to what extent the worrying is perceived as problematic (see Bailey & Wells, 2013; Rusico & Borkovec, 2003; Cartwright-Hatton & Wells, 1997).

Metacognitive theory (MCT) is based on the perception that the core explanation of mental disorders is the use of inappropriate strategies in the regulation of thoughts, feelings, and behavior (Wells, 2011). A study done by Rusico and Borkovec (2003) examined whether GAD and non-GAD high worriers differ in their actual worry experiences, their subjective appraisals of worry experiences, or both experiences and appraisals of worry. The findings were that GAD worriers experienced less control over negative intrusive thoughts immediately after worrying, reported greater somatic hyperarousal following worry, and endorsed several negative beliefs about worry more strongly than non-GAD worriers. Uncontrollability metacognitions are demonstrated to have a strong relation with psychopathology (Bailey & Wells, 2013; Wells & Cartwright-Hatton, 2004).

Metacognitions may be split into positive and negative metacognitive beliefs. The positive assumptions concern the benefits of thinking and other mental activity, such as "worry makes me prepared." The negative assumptions, however, consider the disadvantages or dangers of worrying, or other unpleasant mental activity, such as "if I lose control of my mind, I get mad". Individuals use, to a greater or lesser extent, both strategies, and they may be more or less appropriate for us. An overweight of small inappropriate metacognitions might cause an excessive and inflexible self-focused attention such as worry, rumination and threat monitoring. Metacognitive beliefs about worry have been found to be positively correlated with pathological worry proneness and trait-anxiety (Cartwright-Hatton and Wells, 1997; Borkovec & Romer, 1995; Bahrami & Yousefi, 2011). Chronic worriers acquire certain thinking strategies or try to neutralize or control their thoughts, and according to Wells (1995) these strategies result from particular metacognitive beliefs. The metacognitive beliefs are motivational by promoting the individual to engage in certain types of thinking or using effort to control thoughts. For instance, it has been found that females tend to have more of both negative and positive metacognitive beliefs about worry, which may explain why women worry more than men (Bahrami & Yousefi, 2011; Robichaud, Dugas, & Conway, 2003).

A good share of research has investigated the relationship between thought control

strategies and psychopathological symptoms characterized by excessive worry such as post-traumatic stress symptoms (Wells & Sembi, 2004). As mentioned above, MCT focuses on difficulties in self-regulation which is theoretical based on a model called SREF (Self-Regulatory Executive Function). According to this model, specific cognitive attention strategies contributes to the formation and maintenance of psychological problems. The metacognitive approach to trauma is based on an understanding where you after a traumatic event will process information in a way that adds a plan for how to think and act in future meetings with dangers and threats (Wells & Sembi, 2004). When emotional processing occurs and a plan is submitted, this is called a reflexive adaptive process (RAP). RAP is automatic in the face of intrusive thoughts, and whether the outcome is adaptive or not depends on the person's thinking and coping style. The adaptation process that takes place at the RAP must be able to work without inappropriate or inflexible impact from the person. The individual will use strategies like worry and probably interpret the absence of threats as evidence that the strategy is working (Nesse, 2001).

Various factors may lead to a thought style and coping behavior that blocks the development of adaptive plans, and so prevent that the cognitive processing returns to the original level before the trauma event. The metacognitive model assumes that posttraumatic symptoms such as "flashbacks" and nightmares are normal reactions immediately after a traumatic event, but problems arise when the person uses maladaptive coping strategies and interprets the symptoms as threatening. Such coping strategies, including brooding and preoccupation of threat related stimuli, are referred to as cognitive attention syndrome (CAS) (Wells, 2011). By following a smoke detector principle, the individual will be stuck in intrusive thoughts instead of flexible shifting between mental modes to develop adaptive plans for coping with actual threats.

1.5 Covariates

In the current study, we attempted to find relations between worry and the variables mentioned above. However, other phenomena that are not part of our initial hypotheses may contribute to the tendency to worry. Controlling for additional variables which could account for these associations and the substantive nature of these associations, can lead to more specific and precise results.

General personality

Personality has been associated with the slow-fast continuum, and within the Five Factor Model of personality (McCrae & Costa, 2008) strong associations have been found between the personality factors *conscientiousness* and *agreeableness* and several indicators of slow speed strategies, including restricted sociosexual preferences, stable relationships (Del Giudice, 2012), and health promoting behaviors (Bogg & Roberts, 2004). In contrast, the three remaining personality factors of *extraversion*, *openness to experience*, and *neuroticism* correlate with high speed strategies to various degrees (Del Giudice, 2012). A general factor of personality (GFP), which is suggested to be at the top of a hierarchical personality structure (Musek, 2007), has also been found to correlate with slow speed strategies (Figueredo & Rushton, 2009).

Neuroticism

Neuroticism is viewed as a general vulnerability factor for a wide range of psychological disorders (Bailey & Wells, 2013; Noyes et al., 2003). Therefore, one could expect that people who are high on this personality trait may also have a higher coincidence of traits related to disorders such as anxiety, depression and/or obsessiveness (Luteijn & Bouman, 1988; Clark & Watson, 1991; Griffith et al., 2010; Ellis & Hudson, 2010; Hale, Klimstra & Meeus, 2010), which could confound the effect that LH speed and metacognitive beliefs might have on worry. Another possible explanation of the shared traits, is psychometric difficulties. According to Clark and Watson (1991), many psychometric inventories of anxiety and worry assess states that are more relevant to other constructs. For example, the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) asks about feelings of failure, disappointment, and unhappiness, which are more appropriate in assessing depression.

There seems to be some symptom overlap between neuroticism and GAD (e.g. negative emotionality, restlessness, sleep problems) (Hale, Klimstra, & Meeus, 2010), leading to a strong relationship between these two. However, worry seems to be a better predictor of neuroticism than the reverse, suggesting that the two are separate constructs (Hale, Klimstra & Meeus, 2010). Still, including neuroticism as a covariate in association with worry requires some consideration as to what our psychometrics are tapping. Previous research has also found that meta-beliefs mediate the relation between neuroticism and worry (Bruin & Muris, 2006), and that neuroticism is negatively predicted by slow LH variables (Figueredo et al., 2005). The overall picture is not clear as to how neuroticism predicts worry. By controlling

for neuroticism, we might better assess worry rather than negative emotionality, due to the strong connection between neuroticism and depression (Saklofske, Kelly, & Janzen, 1995). But we also risk losing some important aspects of worry, given the phenomenological similarity between neuroticism and GAD. On the other hand, because our study is about worry in normal populations, rather than clinical populations, these aspects might be of less importance. From now on, neuroticism will be referred to as *emotional stability*.

Health

If we look at evolutionary history, we find that males are selected for greater investments in current reproductive competition, rather than longevity (Jin, Elwert, Freese & Christakis, 2010; Buss, 1994). To prioritize current reproduction over health and longevity is in line with fast LH speed strategies, as it is not advisable to have longevity as a priority when the environment is harsh and uncertain to an extent where it is not possible to anticipate future events. The distribution of genes, by which one increases the quantity of offspring, is therefore prioritized above somatic investment amongst men. Whereas for females, on the other hand, longevity is particularly important regarding the offspring's upbringing and survival, and they might not have the same freedom of choice as men. In Chapman & Croups' article (2006), worry is regarded as an emotion, and was found to predict health-promoting behavior. Decision making regarding health-promoting behavior (i.e. somatic effort) is determined, at least partly, by the emotions that arise in such decision making (Chapman & Croups, 2006). If no particularly emotions arise, such as worry, one may be more insensitive to signals of threats against one's health and be less motivated to make somatic health a priority.

1.6 Hypotheses

Hypothesis 1: We expect to find psychological sex differences in worry (e.g. Kennair, Bendixen & Buss, 2016; Kruger & Nesse, 2006; Robichaud, Dugas, & Conway, 2003; Buss, 1994; Wilson & Daly, 1985), assuming that sex is an important predictor of worry. We expect that women will worry more than men. Women have a tendency of estimating the risk of danger as being higher than what men do (Kennair, Bendixen & Buss, 2016; Kruger & Nesse, 2006; Mathews, 1990), and worry is a often used method of attempting to avoid future catastrophe (Borcovec & Inez, 1990).

Hypothesis 2: Based on Del Giudice's theoretical model, we hypothesize that slow LH speed will predict more worry. People with slow LH strategies should have a stronger

need to monitor their environment to avoid possible future risks and threats, because of their investment in future gains. In order to participate in long-term relationships, refrain from short-term sexual activity, and avoid risky situations, it is necessary to have an adequate degree of behavioral control. Such behavioral control is probably accompanied by elevated levels of cognitive activity concerning possible current and future threats. This is supported partly by an association between traits that are characteristic for slow LH speed, and anxiety and depression, two states both characterized by excessive worry (e.g. Eisenberg et al., 2001; Huey & Weisz, 1997). Those with fast LH strategies, however, should be less concerned with future risks, because they have less to gain due to more unstable and unpredictable environments. Instead they should invest their resources in other ways, e.g. through risk taking and more immediate profits.

Hypothesis 3: We hypothesize that levels of metacognition will be the best predictor of worry. Impaired flexibility to switch between different mental modes, is a possible risk factor for persistent and repetitive worry where the individual becomes entrenched in its threat monitoring (Miyake & Friedman, 2012). MCT considers persistent and repetitive thinking as a causal factor for mental disorders, and that by modifying these strategies one will achieve more constructive behavior (Wells, 2011). This leads to an assumption of worry being a state rather than a trait in the individual, and provides a basis for a state-version hypothesis where metacognition is reckoned as the best predictor of worry. Also, we think it would be useful to split metacognitions into positive and negative metacognitions as they might be related to different aspects of worry.

Hypothesis 4: In line with previous research, we expect to find a higher prevalence of metacognitions among women than among men (Wells, 1995; Wells, 2011; Bahrami & Yousefi, 2011).

Hypothesis 5: We expect that people with slow LH speed will worry more and have a higher tendency for monitoring potential future threats than those with fast LH speed. Therefore, is it likely that people with slow LH speed will also have a higher occurrence of metacognitions, for instance because metacognitive beliefs consider the advantages of worrying. Our hypothesis is therefore that there will be a correlation between LH speed and worry, but that this relationship might be better explained by including levels of metacognitions.

Hypothesis 6: The traits of LH speed is, among other things, strongly correlated with health promoting behaviors and personality traits (Figueredo & Rushton, 2009; Figueredo et al., 2004, 2007; Woodley of Menie & Madison, 2015). Since we want to test what unique effect life history has upon worry, LH speed will be controlled for both personality and health. By doing this, we think we will obtain a better correspondence between LH speed and the criterions in our measurement of LH speed, and consequently find a more accurate relation between LH speed and the amount of worry.

Hypothesis 7: Previous research has found that low emotional stability positively predicts worry (de Bruin, Rassin & Muris, 2007; Ellis & Hudson, 2010). In this thesis, we are interested in the effect that our predictors have on worry, beyond the well-known effect of emotional stability. Also, one would expect that individuals with a low score on emotional stability also have a higher coincidence of phenomena such as depression and/or obsessiveness, and therefore this could confound the effect of LH speed and metacognitions on worry (Griffith et al., 2010). By including emotional stability, we expect to control for a portion of the effects that other traits may have on worry, in order to find the unique contribution of LH speed, metacognitions, and sex.

2. METHOD

2.1 Participants

2.1.1 Norwegian Student Sample

The participants were 206 undergraduate students from the Norwegian University of Science and Technology, a university in Central Norway. Convenience sampling, not random

sampling, was used. Mean age was 24.7 years ($SD = 6.75$, ranging from 19 to 63), and 59.2 % of the participants were women. As there is a high level of homogeneity in Norway in terms of earnings and social position, participants were not asked to report their socioeconomic status. 6.5 % of participants reported having used psychiatric medication or been in psychotherapy during the last 12 months due to anxiety, worry, or panic. One respondent did not report hers/his gender, and was therefore excluded from analysis regarding sex differences.

2.1.2 Midwestern-American Student Sample

The participants were 239 undergraduate students from Midwestern universities in the US. Mean age was 18.6 ($SD = 0.9$, ranging from 18 to 25), and 57.7 % were women. Regarding self-reported socioeconomic class, 6.5 % of the students reported being part of the lower class, 58.6 % reported being part of the middle class, and the remaining 35.1 % reported being part of the upper class. 13.8 % reported to having used psychiatric medications or gone to therapy in the last 12 months due to anxiety, worry, or panic. 2011).

2.1.3 General American Sample

The participants were 368 Americans from all four regions specified by the US Census Bureau. Mean age was 34.7 years ($SD = 15.3$, ranging from 18 to 79), and 65.8 % were women. 34.8 % of the participants were from the South region of the US, 23.2 % were from the West, 22.7 % from the Northeast, and 19.3 % from the Midwest. Regarding self-reported socioeconomic class, 18.2 % reported being part of the lower class, 72.9 % reported being part of the middle class, and 5.7 % reported being part of the upper class. The last 3.1 % of participants did not know, or preferred not to answer. Regarding highest obtained educational level, the portion of the sample who had obtained a high school degree or did not finish high school studies was 32.6 %. 54.9 % are pursuing or have obtained a bachelor's degree, and 12.4 % are pursuing or have obtained a graduate degree (e.g. a master's degree or a Ph.D.). On questions about distressing levels of anxiety, worry, or panic, 20.4 % of participants reported having used psychiatric medication or undergone psychotherapy in the last 12 months for such conditions.

2.2 Instruments

A hard-copy (i.e. paper) questionnaire was printed for each participant and used to collect the data. The Norwegian questionnaire may be found in appendix L. The questionnaire

contained information about consent on its first page, with the Norwegian questionnaire following the guidelines established by the Health Research Act (Helseforskningsloven, 2009), and the American questionnaire following guidelines established by the American Psychological Association (2010). Items that did not already have an official Norwegian translated version were translated and back-translated by the authors of this study. This applies to the *Worry Domains Questionnaire* (WDQ; Tallis, Eysenck, & Mathews, 1992), *Midlife Development in the United States* (MIDUS; Brim et al., 2000) *study protocols health questionnaire*, sociodemographic questions, and data reliability questions. Items that did not sound natural in Norwegian were modified, and later assessed and approved by the authors' supervisor. Official Norwegian translated versions were used for the *Mini-K LH Strategy Short Form* (Figueredo et al., 2006; Figueredo et al., 2014), *Ten-Item Personality Inventory* (TIPI) (Gosling, Rentfrow & Swann, 2003), and *Metacognitions Questionnaire-30* (MCQ-30) (Wells & Cartwright-Hatton, 2004). Items already translated in the *M5-50 Scale* (McCord, 2002) were used, except for question number 13, 16, 17, and 18, which were translated and modified by the authors of this study since one could not retrieve any prior translations of the questions mentioned. Questions were asked about age, sex, and sexual orientation. The American questionnaire also included questions about social class, ethnicity, level of education, and state of residence (the two latter only for the general American sample), but these questions were excluded from the Norwegian questionnaire to assure anonymity or due to lack of relevance in the Norwegian sample.

The Worry Domains Questionnaire (WDQ) (Tallis, Eysenck, & Mathews, 1992) consists of 30 items with response alternatives distributed across a 5-point Likert scale. It assesses the levels of worry within six domains which aggregates onto a hierarchically-superior worry factor. The domains are relationships, lack of confidence, aimless future, work incompetence, financial, and social political/altruistic worry. Evidence suggest that the WDQ can discriminate between different levels of worry in non-clinical samples, instead of simply discriminating between normal worry and pathological worry, or to assess severity of worry in clinical samples (Davey, 1993; Tallis, Eysenck, & Mathews, 1992; Tallis, Davey, & Bond, 1994). Cronbach's alpha was .91 in the Norwegian sample in the Norwegian sample, .95 in the general American sample, and .93 in the Midwestern student sample.

The Midlife Development in the United States study protocols health questionnaire (MIDUS) (Brim et al., 2000) is a questionnaire that originally aims to assess age-related

differences in physical and mental health. To assess both self-perceived general health and health the last 30 days, the questions A1PA4, A1PA5, A1PA6, A1PA7, and A1PA8 were included from the MIDUS (retrieved from <http://midus1-project1.ssc.wisc.edu/Phone-Health.html>). This has also been done in previous studies of LH strategies (e.g., Figueredo et al., 2004; Figueredo, 2007). The questions accumulate into a common factor of general health which has been repeatedly found to be part of the slow LH nexus due to the prioritization of somatic over reproductive effort (Figueredo et al., 2004; Figueredo, Vásquez, Brumbach & Schneider, 2007). As different questions were in different metrics, Z-scores (i.e. standardized scores) were computed for all questions and their mean was then computed. Cronbach's alpha for the five questions was .73 in the Norwegian sample, .78 in the general American sample, and .68 in the Midwestern student sample.

The Mini-K LH Strategy Short Form (Figueredo et al., 2006; Figueredo et al., 2014) is an inventory with 20 items aiming to assess general life history speed. Participants respond to sentences reflecting attitudes, behaviors, cognitions, and life experiences that are believed to characterize slow life history strategies. It uses a 7-point Likert scale and is a short form of the Arizona LH Battery (Figueredo, 2007). Mini-K is believed to include items that assess the psychological mechanisms and behavioral adaptations that lead to or relate to biometric LH traits (e.g. age at puberty, number of sexual partners, number of children), rather than tap into them directly (Figueredo et al., 2015). It is discussed whether the LH nexus (i.e. the core traits of life history strategies) give rise to more than one single factor or not (Copping, Campbell & Muncer, 2014). Even if the LH nexus consists of several factors, there is no evidence today that clarifies how Mini-K and other psychometrics of LH speed should be divided. Therefore, we will be proceeding with the Mini-K as it is. Cronbach's alpha was .67 in the Norwegian sample, .66 in the general American sample, and .62 in the Midwestern student sample.

The Ten-Item Personality Inventory (TIPI) (Gosling, Rentfrow, & Swann, 2003) is a short scale assessing the five factors that constitute the Big Five personality model; openness, conscientiousness, extraversion, agreeableness, and neuroticism. The scale consists of ten items, each of the items displaying two descriptors, resulting in a total of four descriptors for each of the five personality factors. The goal of the TIPI was to create a short instrument that optimized validity including content validity (Gosling, Rentfrow, & Swann, 2003). The scale is believed to correspond with the general factor of personality (GFP) (Van der Linden, te Nijenhuis, & Bakker, 2010), which has been found to be part of a slow life history strategy (Figueredo & Rushton, 2009; Figueredo et al., 2004; Figueredo et al., 2007). The GFP is

assumed to represent social effectiveness and the ability to establish long-term goals and bonds (Dunkel & van der Linden, 2014). Cronbach's alpha was .64 in the Norwegian sample, .66 in the general American sample, and .62 in the Midwestern student sample.

The M5-50 Scale (McCord, 2002) is a 50-item psychometric inventory that aims to measure personality traits. It is based on the Big Five model of personality, and the items in the M5-50 scale are derived from the International Personality Item Pool (Goldberg, 1999). In this study, only the ten items assessing the neuroticism factor are included in the analyses, with the purpose of being able to control for the effect that other traits may have on worry. This is due to the fact that worry has a portion of shared variance with other confounding conditions such as depressive and obsessive tendencies. In this case, neuroticism is believed to serve as a summarizing variable (Griffith et al., 2010). Cronbach's alpha was .89 in the Norwegian sample, .87 in the general American sample, and .85 in the Midwestern student sample.

The worry-specific factors of the Meta-Cognitions Questionnaire-Short Form (Wells & Cartwright-Hatton, 2004) is a shortened 30-items version of the MCQ. The original version is a 65-item scale developed to assess several dimensions of metacognitions thought to be relevant to psychopathology, according to S-REF theory (Cartwright-Hatton & Wells, 1997). The MCQ measures individual differences in a selection of metacognitive beliefs, judgments and monitoring tendencies considered important in the metacognitive model of psychological disorders. Only six questions intended to assess positive metacognitions and six questions intended to assess negative metacognitions were included in our questionnaire. Cronbach's alpha was .82 in the Norwegian sample, .88 in the general American sample, and .87 in the Midwestern student sample for the MCW as a whole. When splitting the MCW into positive and negative metacognitions, the positive metacognitions have a Cronbach's alpha of .83 in the Norwegian sample, .89 in the general American sample, and .90 in the Midwestern American sample. The negative metacognitions have a Cronbach's alpha of .87 in the Norwegian sample, .89 in the general American sample, and .87 in the Midwestern student sample.

Data reliability questions: Two forced-choice questions were included in the questionnaire to quickly assess whether the participant took the questionnaire seriously, and whether the participant perceives his/her responses to be suited to be included in the analyses. The first question was "How much do you agree with this?", where the participants could

respond to the claim “I took my time to answer the questions in this survey honestly and accurately.” on a 4-point Likert scale. The second question was “Is there any reason why we should not use your data?”, with options “Yes” and “No”. All participants who marked “1 (strongly disagree)” or “2 (disagree)” on the first question, and/or “Yes” on the second were eliminated from analyses.

2.3 Procedures

2.3.1 Ethical

Before data collection, potential participants were informed about: (1) the purpose of the research, expected duration, and the content and design of the survey; (2) their right to decline to participate and to withdraw from the research once participation had begun; (3) the right to decline to participate, with no consequences following from that decision; (4) anonymity and confidentiality of the information given during the survey; and (5) who to contact for questions about the research and participants' rights.

Potential participants were informed that the procedures used in this study are in agreement with the Regional Committees for Medical and Health Research Ethics (REC). The psychometric inventories and questions described above do not focus on clinical aspects or extreme descriptions of emotions, even though it assesses worry and anxiety. The present questionnaire focuses on the normal aspects of non-pathological anxiety and worry experienced at some level by everyone. Nevertheless, all potential participants have been reassured that they can stop participating at any point and skip questions and inventories. The participants are informed that they give their consent by fulfilling the questionnaire and turning it in.

2.3.2 Data collection

Regarding the Norwegian sample, paper questionnaires were distributed to students of different campuses and courses at the Norwegian University of Science and Technology. Twenty to thirty minutes were given for students to fill in the questionnaire. A researcher was present in the beginning and at the end of the session, in case participants had any questions or comments. Completed questionnaires were placed in a box while the researcher was not present, so that responses to survey questions could not be associated with signatures. Completed questionnaires were subsequently transcribed into a digital format for analysis. The two American samples were provided by Dr. Daniel J. Kruger at the University of Michigan, USA, and Dr. Claudio Simon Hutz and Heitor Barcellos Ferreira Fernandes at the

Federal University of Rio Grande do Sul, Brazil.

2.3.3 Mediation Analysis

PROCESS macro for SPSS (Hayes, 2016) was used as a tool for implementing the method. As mentioned earlier, the present study wanted to look at the direct and mediated relations between the variables LH speed, metacognitions, and worry. At the same time, the individual's sex was assumed to affect the extent of metacognitions and worry, and was included as a moderator in the analysis. We also wanted to assess the unique effects X and Y have upon each other, independently of the confounding factors of sex and neuroticism. As the Sobel test, PROCESS macro compares the strength of the indirect effect of X on Y to the point null hypothesis (Preacher and Hayes, 2004; Hayes, 2009). The difference is that PROCESS makes no assumption about the shape of the distributions of the variables or the sampling distribution of the statistic (Lockwood & MacKinnon, 1998; Shrout & Bolger, 2002). Further, the macro also provides a bootstrap estimate of the indirect effect, an estimated standard error, and both 95% and 99% confidence intervals for population value of the indirect effect.

The simple relationship between X and Y is often referred to as the total effect of X on Y. This effect can be denoted as c , and should be distinguished from the direct effect of X on Y after controlling for M. This path coefficient is denoted as c' . However, according to Hayes (2015), significant correlation between X and Y is not necessary to assert that X influences Y. In other words, path c does not have to be different from zero. Path $a*b$ on the other hand, must be different from zero to indicate mediation.

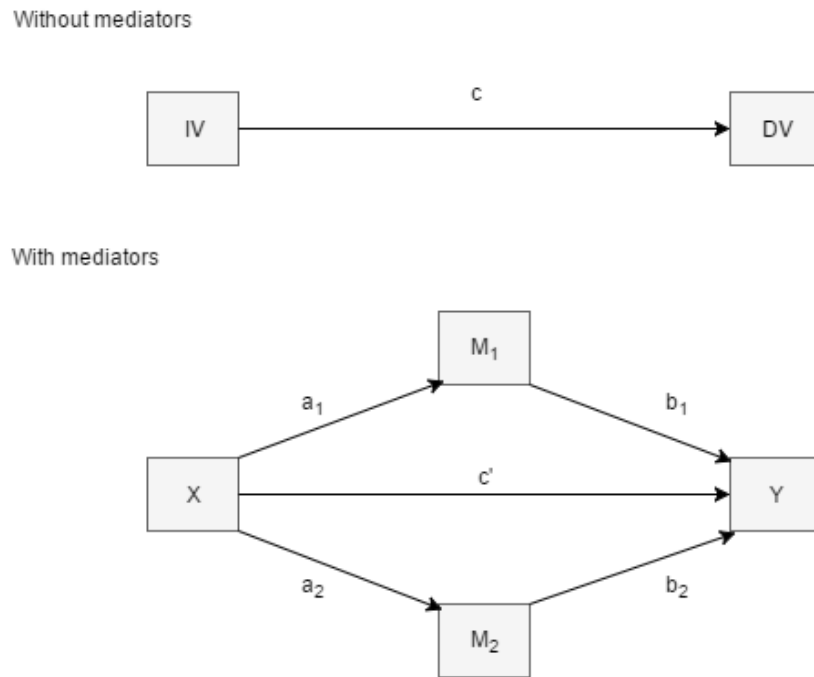
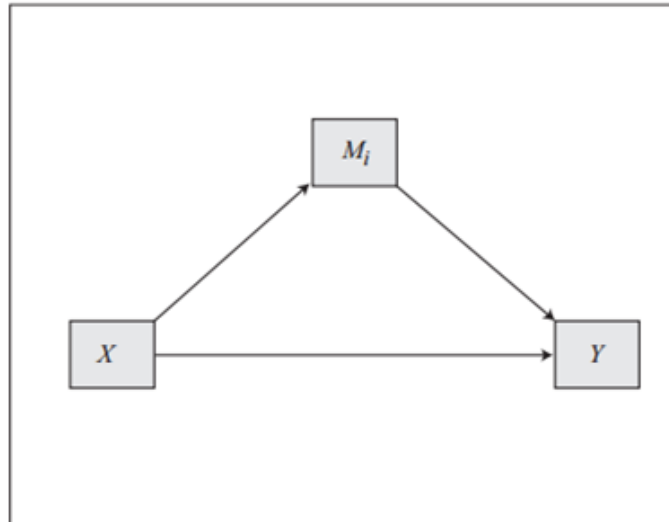


Figure 1. Illustration of Mediation analysis

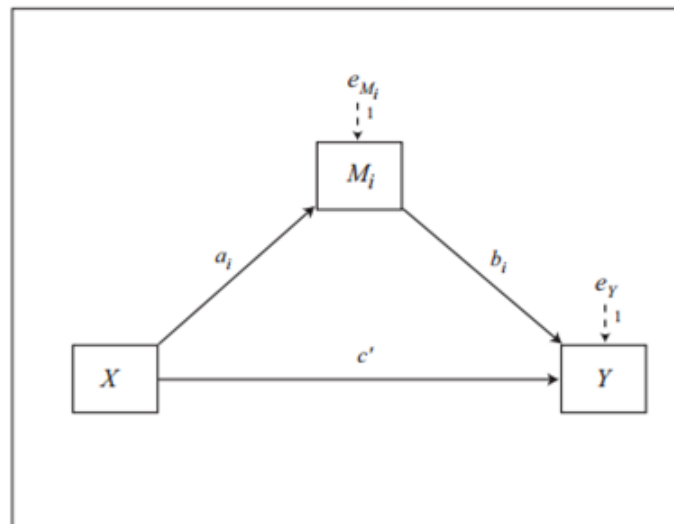
For this study, Hayes's (2015) template 4 for PROCESS (see figure 2) was chosen. This model allows up to ten mediators operating in parallel, making it possible to use both positive and negative metacognitions as independent mediators. By looking at the underlying mechanism producing the effect one variable may have on other variables, a deeper understanding of the relationships among variables may arise (Preacher & Hayes, 2004).

Model 4

Conceptual Diagram



Statistical Diagram



Indirect effect of X on Y through $M_i = a_i b_i$

Direct effect of X on $Y = c'$

Note: Model 4 allows up to 10 mediators operating in parallel.

Figure 2. SPSS PROCESS Model 4

Because we wanted to assess the unique effect X, M and Y have on each other, control variables (U) of Y and M were also included as shown in figure 3.

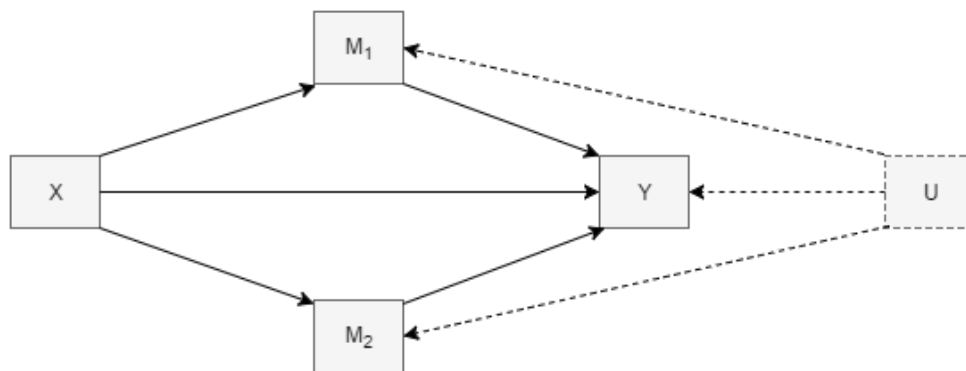


Figure 3. SPSS PROCESS Model 4 adjusted

3. RESULTS

3.1 Test of Normality

Tests were conducted to examine outliers, linearity among variables, independent errors, homoscedasticity, and normal distribution, including skewness and kurtosis. Following suggestions from Field (2013, p. 184) and Pallant (2013, p. 59), the assumptions of normal distribution, skewness, and kurtosis were evaluated by inspecting the shape of the distribution of histograms and Q-Q Plots, combined with descriptive statistics. A scatterplot containing the value of the variable residuals against the values predicted by the model were conducted to assess linearity and homoscedasticity (Field, 2013, p. 192). Also, considering our relatively large sample with more than 200 cases (Tabachnick & Fidell, 2013, p. 80) results indicated that variables included in the following analyses did not deviate from normality assumptions (Tabachnick & Fidell, 2013). Further, all independent variables used in analyses were also checked for multicollinearity, with results indicating no problems with multicollinearity.

3.2 Correlation Between the Measures

To examine the relationship between the variables included in our hypothesis, a bivariate correlational analysis was performed between slow LH speed, worry, and metacognitions. A bootstrap was carried out, computing confidence intervals according to Field (2013, p. 271) by resampling the original sample by a thousand times. The results for each sample can be found in table 1.

TABLE 1Norwegian Student Sample. *Bivariate Correlations Among LH speed, Metacognitions, & Worry*

Subscale	1.	2.	3.	4.
1.SLOW LH SPEED	–	ns	ns	ns
2.POSITIVE METACOGNITIONS	ns	–	ns	.30(.16,.42)
3.NEGATIVE METACOGNITIONS	ns	ns	–	.41(.27,.54)
4.WORRY	ns	.30(.16,.42)	.41(.27,.54)	–

Note: The *BCa* 95% *CI* lower and upper are set in brackets (). ns= non significant at $p < .05$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

TABLE 2Midwestern Student Sample. *Bivariate Correlations Among LH speed, Metacognitions, & Worry*

Subscale	1.	2.	3.	4.
1.SLOW LH SPEED	–	ns	ns	ns
2.POSITIVE METACOGNITIONS	ns	–	.26(.11, .41)	.25(.09,.38)
3.NEGATIVE METACOGNITIONS	ns	.26(.11, .41)	–	.48(.36,.58)
4.WORRY	ns	.25(.09,.38)	.48(.36,.58)	–

Note: The *BCa* 95% *CI* lower and upper are set in brackets (). ns= non significant at $p < .05$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

TABLE 3General American Sample. *Bivariate Correlations Among LH speed, Metacognitions, & Worry*

Subscale	1.	2.	3.	4.
1.SLOW LH SPEED	–	ns	-.19(-.29, -.08)	-.20(-.31,.10)
2.POSITIVE METACOGNITIONS	ns	–	.31(.21, .41)	.28(.18,.38)
3.NEGATIVE METACOGNITIONS	-.19(-.29, -.08)	.31(.21, .41)	–	.58(.50,.65)
4.WORRY	-.20(-.31,.10)	.28(.18,.38)	.58(.50,.65)	–

Note: The *BCa* 95% *CI* lower and upper are set in brackets (). ns= non significant at $p < .05$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

3.3 Differences in the Means of LH speed, Metacognitions, and Worry

In our study, we wanted to assess possible sex differences in slow LH speed, metacognitive beliefs, and worry. Sex differences have consistently been observed regarding rates of anxiety disorders, with females tending to worry more males (McLean et al., 2011; Martel, 2013; Eaton et al., 2012). Life history speed is also subject to sex differences due to differences in strategies between males and females, e.g. the higher mating effort in men and lower risk taking in women, thus placing women somewhat closer to the slow end of the slow-fast continuum compared to men (Del Giudice, 2014). A total of four independent-samples T-tests were conducted, and Bonferroni correction was used.

TABLE 4

Norwegian Student Sample. *Independent t-test (two tailed) for direction of sex difference and significance level for slow LH speed, metacognitions and worry*

	Women		Men		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SLOW LH SPEED	5.3	.5	4.98	.59	4.63
POSITIVE METACOGNITIONS	1.58	.52	1.61	.52	ns
NEGATIVE METACOGNITIONS	1.77	.71	1.35	.47	5.11
WORRY	2.02	.45	1.7	.39	5.2

Note: ns= non significant at $p < .013$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

TABLE 5

Midwestern Student Sample. *Independent t-test (two tailed) for direction of sex difference and significance level for slow LH speed, metacognitions and worry*

	Women		Men		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SLOW LH SPEED	5.44	.65	5.05	.68	-4.44
POSITIVE METACOGNITIONS	1.81	.72	1.85	.69	ns
NEGATIVE METACOGNITIONS	1.86	.73	1.83	.71	ns
WORRY	2.13	.56	1.96	.5	ns

Note: ns= non significant at $p < .013$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

TABLE 6

General American Sample. *Independent t-test (two tailed) for direction of sex difference and significance level for slow LH speed, metacognitions and worry*

	Women		Men		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
SLOW LH SPEED	4.91	.79	4.73	.82	ns
POSITIVE METACOGNITIONS	1.71	.68	1.64	.64	ns
NEGATIVE METACOGNITIONS	2.21	.88	1.9	.81	-3.26
WORRY	2.14	.62	1.97	.61	-2.49

Note: ns= non significant at $p < .013$. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

3.4 Predictors of Worry Scores

Our hypotheses stated that LH speed, metacognitions and sex would predict levels of worry. A standard multiple regression analysis with slow LH speed, metacognitions, sex and culture as independent variables, and worry as the dependent variable, was therefore carried out. Because we were interested in how closely several predictors relate to worry, a hierarchical regression analysis was also ran. Variables assessing general personality (TIPI), self-perceived health (MIDUS), and emotional stability (M5-50) were implemented, in order to control for shared variance with LH speed and metacognitions, as the core traits of life history strategies have been proposed and demonstrated to have a strong association with these variables (Figueredo & Rushton, 2009; Figueredo et al., 2004, 2007; Woodley of Menie & Madison, 2015). Sex was also included as a predictor. The hierarchical regression analyses were carried out as in Tabachnick and Field (2013, p. 137). The results are shown in table 7 to 12.

TABLE 7

Norwegian Student Sample. *Summary of Simple Regression Analyses for Variables Predicting Worry (N = 198)*

Variable	Worry		
	<i>B</i>	<i>SE B</i>	β
SLOW LH SPEED	-.066	.052	-.082
NEGATIVE METACOGNITIONS	.190	.045	.276*
POSITIVE METACOGNITIONS	.235	.053	.270*
SEX	.271	.063	.294*
R^2		.299	
<i>F</i>		20.534**	

* $p < .05$.

TABLE 8

Norwegian Student Sample. *Summary of Hierarchical Regression Analysis for Variables Predicting Worry (N = 196)*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
SEX	.323	.062	.350*	.132	.061	.143*	.104	.064	.113
GPF				-.067	.043	-.109	-.041	.046	-.067
HEALTH				-.026	.050	-.040	-.046	.049	-.070
EMOSTAB				-.263	.047	-.473*	-.245	.049	-.441*
LH SPEED							.063	.054	.078
NEG MET							.030	.047	.043
POS MET							.176	.051	.201*
<i>R</i> ²		.122*			.383*			.442*	
<i>F</i> for change in <i>R</i> ²		27.017			28.847			5.177	

**p* < .05.

TABLE 9

Midwestern Student Sample. *Summary of Simple Regression Analyses for Variables Predicting Worry (N = 233)*

Variable	Worry		
	<i>B</i>	<i>SE B</i>	β
SLOW LH SPEED	-.036	.047	-.045
NEGATIVE METACOGNITIONS	.331	.044	.437*
POSITIVE METACOGNITIONS	.109	.045	.142*
SEX	.181	.065	.164*
<i>R</i> ²		.270	
<i>F</i>		21.054*	

**p* < .05.

TABLE 10

Midwestern Student Sample. *Summary of Hierarchical Regression Analysis for Variables Predicting Worry (N = 233)*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
SEX	.173	.072	.157*	.046	.061	.042	.064	.062	.058
GPF				-.014	.047	-.019	-.028	.048	-.038
HEALTH				-.086	.054	-.102	-.078	.053	-.093
EMOSTAB				-.360	.050	-.515*	-.262	.054	-.375*
SLOW LH							.030	.046	.038
NEG MET							.167	.047	.221*
POS MET							.059	.042	.076
<i>R</i> ²		.025*			.355*			.402*	
<i>F</i> for change in <i>R</i> ²		5.865			38.986			5.876	

Note: **p* < .05.

TABLE 11

General American Sample. *Summary of Simple Regression Analyses for Variables Predicting Worry (N = 353)*

Variable	Worry		
	<i>B</i>	<i>SE B</i>	β
SLOW LH SPEED	-.082	.034	-.105*
NEGATIVE METACOGNITIONS	.372	.034	.517*
POSITIVE METACOGNITIONS	.100	.043	.106*
SEX	.063	.058	.048
<i>R</i> ²		.356	
<i>F</i>		48.007*	

**p* < .05.

TABLE 12

General American Sample. *Summary of Hierarchical Regression Analysis for Variables Predicting Worry (N = 353)*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
SEX	.172	.069	.131*	.010	.057	.008	-.016	.054	-.012
GPF				-.035	.044	-.044	-.019	.044	-.024
HEALTH				-.076	.044	-.086	-.066	.044	-.074
EMOSTAB				-.390	.045	-.540*	-.272	.046	-.378*
SLOW LH							.017	.036	.022
NEG MET							.200	.038	.277*
POS MET							.103	.040	.109*
<i>R</i> ²		.017*			.384*			.455*	
<i>F</i> for change in <i>R</i> ²		6.176			69.068			14.884	

Note: **p* < .05.

3.5 Mediation Analysis

Mediational analyses were conducted to assess whether metacognitions will contribute to a more precise relationship between slow LH speed and worry. We ran two models, first using sex and culture as the only covariates, before adding emotional stability in the second model. The results are shown in figure 4 to 9.

Regression analysis was used to investigate the hypothesis that metacognition mediates the effect of LH speed on worry. When only sex was included as a control variable (figure 4, 6 and 8), the results support the mediational hypothesis in the Norwegian and the General American sample, while the results from the Midwestern student sample did not. Approximately 27 % of the variance in worry was accounted for by the predictors in the Midwestern student sample ($R^2 = .27$). In the Norwegian sample the indirect coefficient through negative metacognitions was indicated to be significant, $B = -.044$, $SE = .019$, 95% $CI = -.096, -.017$. Slow LH speed was associated with approximately .04 points lower worry scores as mediated by negative metacognitions. In this model, approximately 29.9 % of the

Why Worry?

variance in worry was accounted for by the predictors ($R^2 = .299$). Concerning the General American sample, slow LH speed showed a direct effect on worry, $B = -.170$, $SE = .045$, $p < .001$, and was still a significant predictor after controlling for the mediators, $B = -.082$, $SE = .038$, $p < .05$. The indirect coefficient through negative metacognitions was indicated to be significant, $B = -.084$, $SE = .024$, 95% $CI = -.135, -.040$. In this sample, slow LH speed was associated with approximately .08 points lower worry scores as mediated by negative metacognitions and approximately 35.6 % of the variance in worry was accounted for by the predictors ($R^2 = .356$).

An almost identical mediational analysis as mentioned above, was also carried out. This time emotional stability was added as covariate, in addition to sex. Results for the Norwegian sample (figure 5) did not support the mediational hypothesis. In this model, approximately 43.2 % of the variance in worry was accounted for by the predictors ($R^2 = .432$). As the results of the Norwegian sample, results of the Midwestern student sample did not support the mediational hypothesis, neither did the results from the General American sample. Approximately 39.6 % of the variance in worry was accounted for by the predictors in the Midwestern student sample ($R^2 = .396$). Regarding the General American sample, approximately 45.1 % of the variance in worry was accounted for by the predictors ($R^2 = .451$).

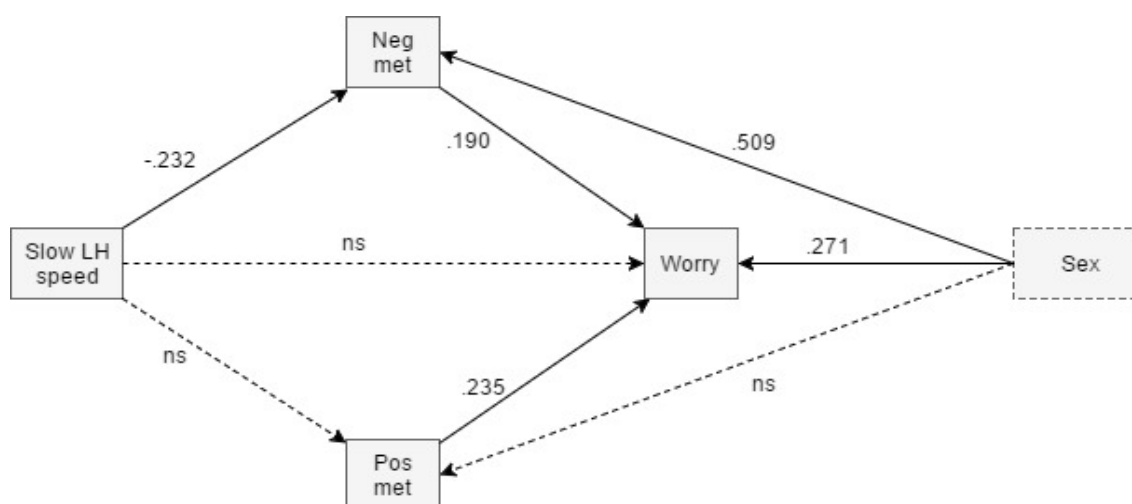


FIGURE 4. Norwegian Student Sample. Mediation model 4 with one covariate. Note: ns= not statistically significant at $p < .05$.

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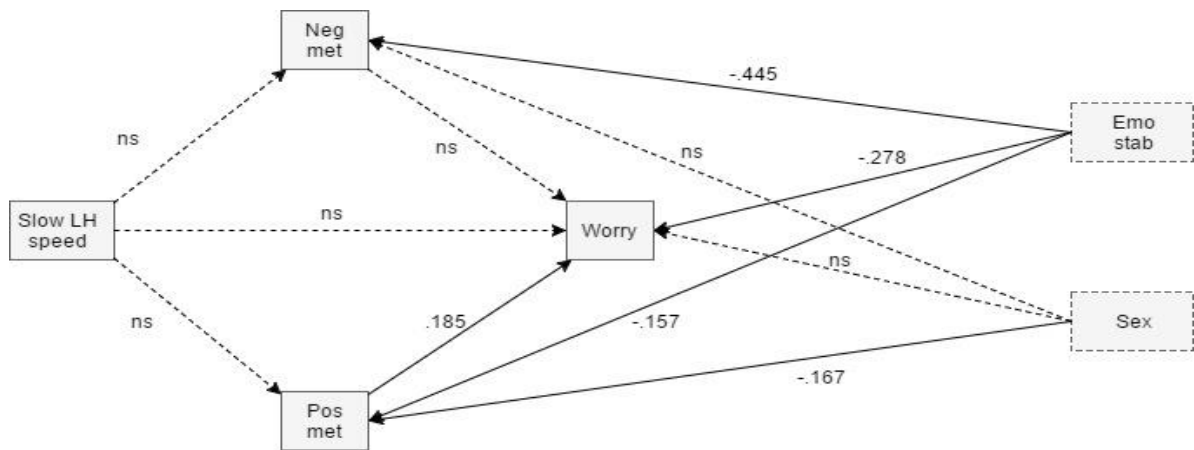


FIGURE 5. Norwegian Student Sample. Mediation model 4 with two covariates. Note: ns = not statistically significant at $p < .05$.

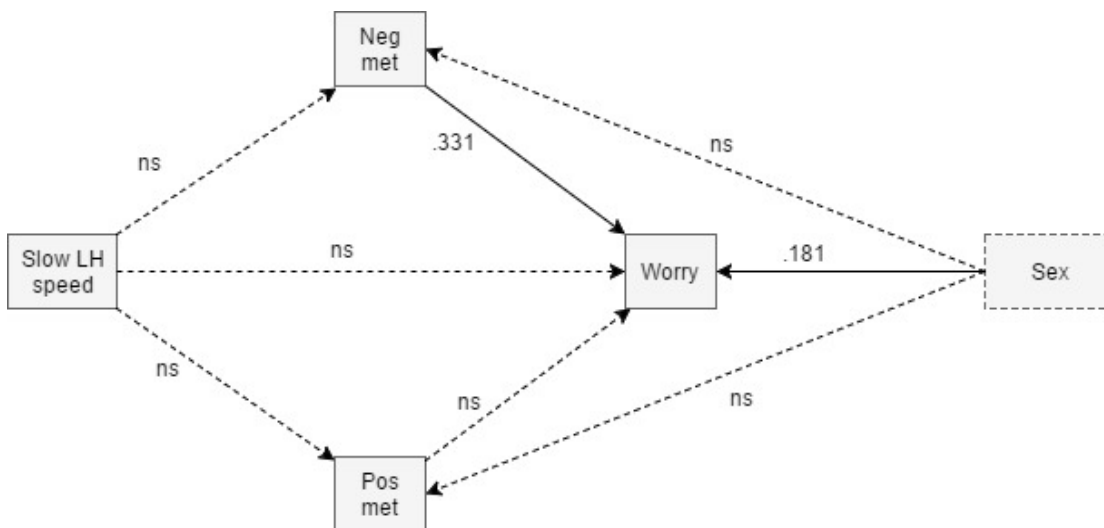


FIGURE 6. Midwestern Student Sample. Mediation model 4 with one covariate. Note: ns = not statistically significant at $p < .05$.

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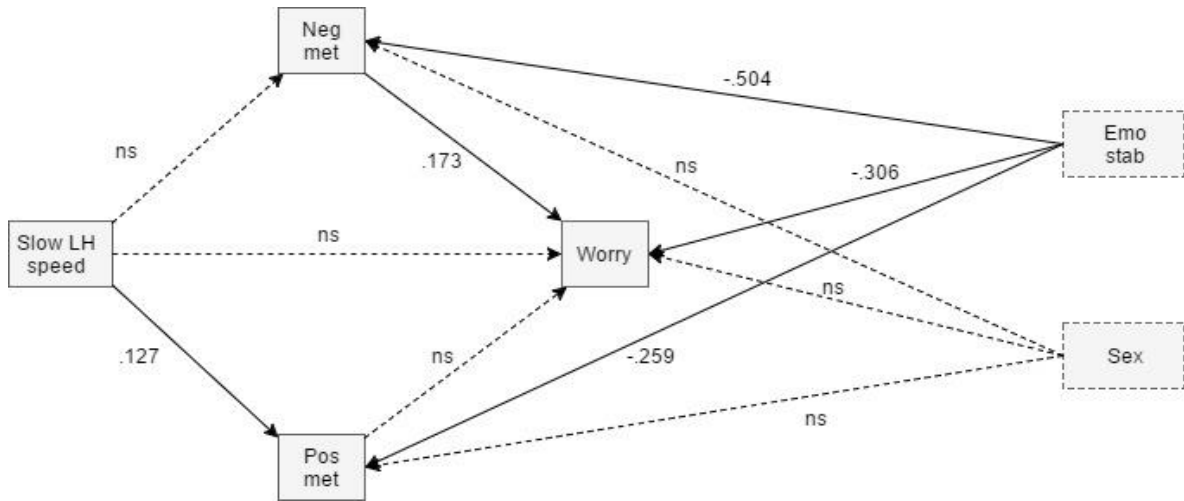


FIGURE 7. Midwestern Student Sample. Mediation model 4 with two covariates. Note: ns = not statistically significant at $p < .05$.

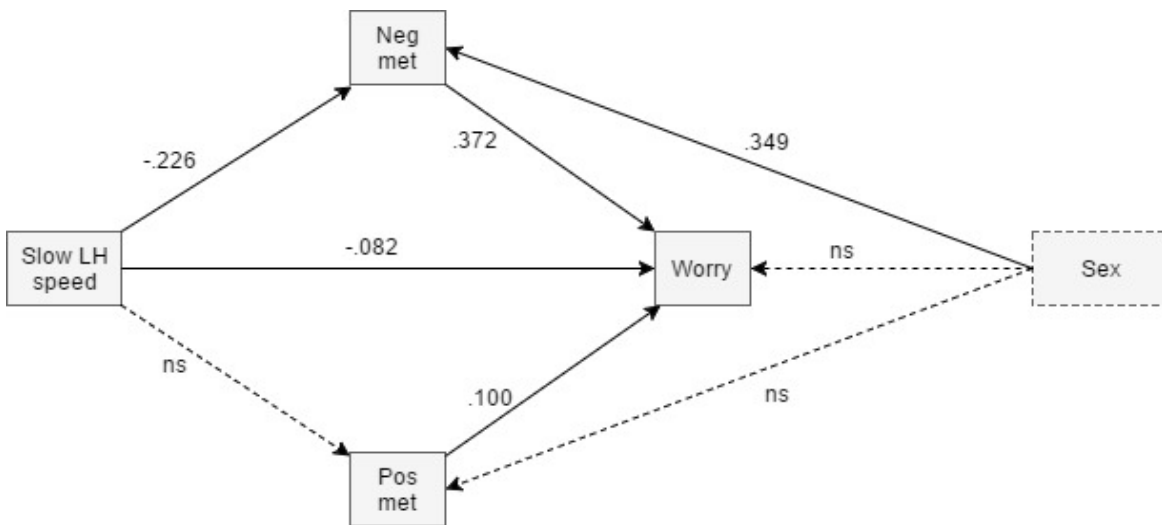


FIGURE 8. General American Sample. Mediation model 4 with one covariate. Note: ns = not statistically significant at $p < .05$.

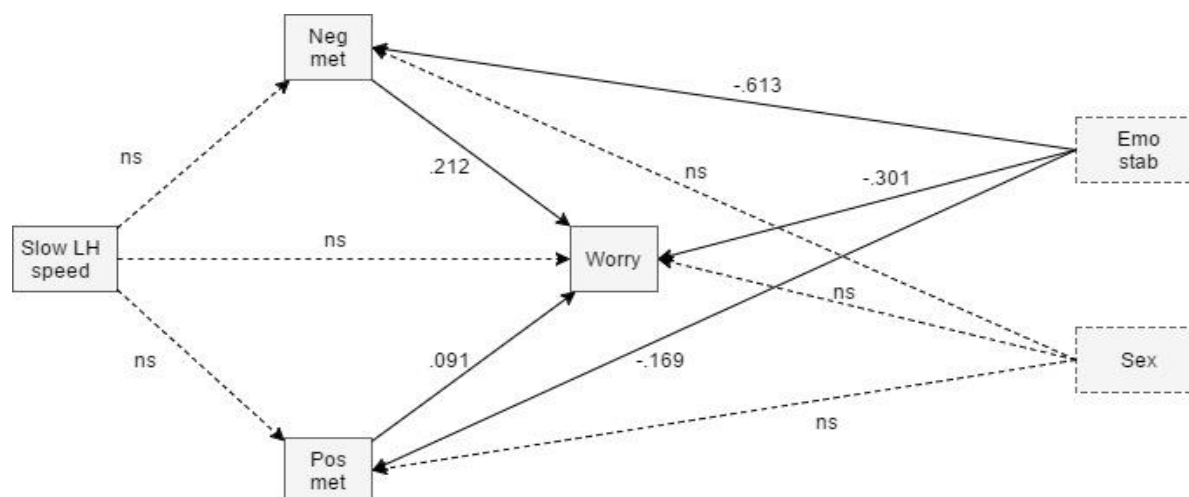


FIGURE 9. General American Sample: Mediation model 4 with two covariates. Note: ns = not statistically significant at $p < .05$.

4. DISCUSSION

The aim of this study was to investigate the power of life history theory, metacognitive theory, and biological theories of sex differences in predicting how much we worry. Of particular interest was whether an ultimate or a more proximate explanation would be the better predictor. In addition to identify central processes leading to worry, we were interested in finding out how life history speed, metacognitions, and sex interact with and influence each other when predicting worry.

4.1 The Relation of Slow LH Speed and Worry

We attempted to examine the relationship between slow LH speed and worry in non-clinical samples. Slow LH speed was hypothesized to predict more worry, because worry is a future oriented and “slow” cognitive process (Davey et al., 1992; Davey, Tallis & Capuzzo, 1996). Therefore, one of the most surprising discoveries of this study was that slow LH speed was associated with *less* worry as mediated by negative metacognitive beliefs, in both the General American sample and Norwegian sample. According to LH theory, individuals with fast LH speed are more risk-taking and invest their resources in manners that yield more or less immediate payoffs (Del Giudice, 2014). The results of the analyses suggest that our hypothesis is too simple and does not sufficiently explain the possibly complex relationship between LH speed and worry. Yet, Del Giudice’s model may also be wrong. Individuals living in unstable and dangerous environments with a high risk of injury, sickness, or early

death, also have reasons to worry and stay alert of possible threats. Further, growing up and living in unstable conditions might yield a poorer basis for obtaining mature, appropriate strategies regarding one's inner emotional life (e.g. self-regulation). Fast LH speed individuals may be more reactive to their environment as compared with slow LH speed individuals, and such an increase in reactivity might lead to engagement in worry as a coping mechanism. From this perspective, and considering the metacognitive model for worry that perceives worry as problem-focused cognitive activity (Kennair, 2014; Wells & Morrison, 1994), worry can be understood as a less mature strategy in the face of unpredictable circumstances of life. Further, we initially expected that people with slow LH speed should worry more, since future-oriented potential problems will not be repeatedly disconfirmed to an extent where the individual realizes there is no actual threat (Nesse, 2001). However, this view may also be too simple, or indeed wrong. Although threats in harsh and unpredictable environments might be more concrete and immediate than threats in stable and predictable environments, there is still a possibility that people with fast LH speed are not getting sufficient disconfirmation of their worries. This should lead to more worrisome predictions of future experiences (Nesse, 2001). For instance, if you live in a harsh and unpredictable neighborhood with high juvenile mortality, the fact that you did not get shot today does not mean you will not be shot tomorrow. Your worry about possible injury may have been disconfirmed every day of your life, but the harshness and unpredictability of your neighborhood still poses a threat to your survival. It can be questioned whether even a minority of participants in this study have backgrounds similar the one in this example, yet the main principle of this scenario poses a possible approach when trying to interpret our results.

Some distinct differences between the three samples were found, one being a higher variance in reported LH speed in the General American sample, as compared to the two student samples. The General American sample reported both a faster average LH speed, and a bigger diversity in answers given. This was also the only sample where we could find a direct association between LH speed and worry. In the Norwegian sample, an association was only present when negative metacognitions were included as a mediator. However, this was not true for the Midwestern student sample despite of having approximately the same LH speed average as the Norwegians.

An almost identical mediational analysis was also carried out, this time adding emotional stability as a covariate in addition to sex. When emotional stability was included,

the indirect association between LH speed and worry in the General American and Norwegian student sample dissipated. Simply put, this suggests that when the effect of emotional stability is accounted for, LH speed does not contribute to predicting why some people worry more than others.

However, there are reasons to be critical of our results regarding the relationship between LH speed and worry. First and foremost, our hypothesis was based on the theoretical framework from Marco Del Giudice's (2014) article, and this theory concerns how extremities on the fast-slow continuum of LH speed can lead to psychopathology. However, our data is collected from normal populations, and the theory proposed by Del Giudice may not apply to populations with non-extreme LH speed, or non-clinical amounts of worry. This is strongly supported by the results from our collaborators Heitor Barcellos Ferreira Fernandes and Dr. Claudio Simon Hutz at the Federal University of Rio Grande do Sul, Brazil. With other variables from the same datasets as we have used, they found a positive and significant association of slow LH speed and worry in all three samples and within both sexes, after controlling for anxiety (i.e. the somatic and affective aspects of worry, as measured by the Beck Anxiety Inventory) and clinical status (i.e. a dichotomous variable splitting individuals who sought treatment vs. those who have never sought treatment) (Fernandes et al., 2016). The association was consistent, although it was not strong. This suggests that there might be some association between slow LH speed and worry, but that this relation is only apparent when clinical status and anxious symptoms have been accounted for. Hutz and Fernandes' findings also suggest that individuals of slow LH speed are more likely to worry than to experience affective anxiety than individuals of fast LH speed, and vice versa. Furthermore, other studies have independently identified a positive relation of worry with risk aversion, and a positive relation of risk aversion with slow LH speed (Maner et al., 2007; Figueredo, Woodley & Fernandes, 2014). This has never been tested directly in a mediation model, and whether risk aversion mediates the relationship between LH speed and worry might be an interesting avenue for future research.

4.2 Measurement of Worry, Emotional Stability, and Life History Speed

In regard to the unexpected lack of relationship between LH speed and worry, it would also be wise to examine our measurements of worry (WDQ), emotional stability (M5-50) and LH speed (Mini-K). Among other things, there is some overlap between the WDQ and the M5-50 regarding lack of confidence and self-worth. When controlling for emotional stability, we could thus lose some important aspects of worry.

However, the WDQ can also be criticized for including several items that focus on present or past situations rather than possible future threats, and is therefore likely to also tap aspects of depression instead of worry. Since at least eight out of ten questions regarding emotional stability in the M5-50 can also be said to assess depressive states rather than anxiety, we might obtain a more future-oriented measurement of worry by holding emotional stability constant.

Furthermore, evolutionary theories (such as LH theory) face challenges in explaining individual differences (Kennair, 2014; Mishra & Gonzales, 2014; Bell, Hankison & Laskowski, 2009), and there has been some concern about the ability of the Mini-K to tap into LH strategies (Copping, Campbell, & Muncer, 2014). This study's somewhat intricate results may indicate the need of a better conceptualization of both worry and LH speed.

4.3 Metacognitive Beliefs as Predictors of Worry

We hypothesized that metacognitions would be the best predictor of worry. Earlier studies state that metacognitions affect how much we worry, and to what extent worry is perceived as problematic (Bailey & Wells, 2013; Rusico & Borkovec, 2004; Cartwright-Hatton & Wells, 1997). Our results add to this body of studies by demonstrating that both positive and negative metacognitive beliefs predict levels of worry, with negative beliefs being superior to positive beliefs in terms of predictive strength. However, the predictive strength of negative metacognitions upon worry was nearly halved after including emotional stability in the analysis, unlike the predictive strength of positive metacognitions that remained about the same. This suggests a closer tie between emotional stability and negative metacognitions, as compared to its association with positive metacognitions. The difference in how much the effect of positive and negative metacognitions is weakened after emotional stability is accounted for, also points in the direction of metacognitions being less comprehensive than initially anticipated.

Theory about the relationship between metacognitive beliefs and worry is based on knowledge about excessive worry in clinical groups, such as GAD-patients. Our results are exciting, as they suggest that this relationship is also present in a normal population.

4.4 General Personality, Health and Emotional Stability as Possible Predictors of Worry

Due to their connection with life history strategies (Del Giudice, 2014; Figueredo & Rushton, 2009; Figueredo et al., 2004, 2007; Woodley of Menie & Madison, 2015), both general personality and health were included as control variables, yet none of them

significantly contributed to the model in any of our analyses. Whether we can observe an actual better correspondence between LH speed and the criteria in Mini-K when these factors are included, is uncertain, and further research on this specific topic is called for.

The personality trait emotional stability was included in the analyses due to its well-known association with worry (Hale, Klimstra, & Meeus, 2010; de Bruin, Rassin & Muris, 2007; Ellis & Hudson, 2010), and it turned out to greatly impact our results. After including emotional stability in our hierarchical regression analyses, results from the General American sample indicated that both positive and negative metacognitions predicted worry levels, in addition to emotional stability. However, in the Midwestern student sample, only negative metacognitive beliefs remained a significant predictor, in addition to emotional stability. In the Norwegian student sample, positive metacognitive beliefs and emotional stability remained significant predictors. The fact that negative metacognitions did not predict worry when emotional stability was included, might be explained by the Norwegian sample having the lowest score of negative metacognitions out of all three samples. It is possible that these low scores of negative metacognitive beliefs, relative to the American scores, make the Norwegian sample more exposed to the strong relationship between emotional instability and negative metacognitive beliefs. I.e., due to the observed relationship between negative metacognitions and emotional stability, the predictive strength of negative metacognitions might not be significant after controlling for emotional stability if the negative metacognitive beliefs are below a certain threshold.

4.5 Sex as a Predictor of Worry and Metacognitive Beliefs

We hypothesized that women would worry more than men, and our results are mostly in accordance with this presumption. Women reported more worry in both the Norwegian and the General American sample, supporting previous research (Robichaud, Dugas, & Conway, 2003; Bahrami & Yousefi, 2011; Nolen-Hoeksema & Morrow, 1993). Women in these two samples also reported higher levels of negative metacognitions than men, also in accordance with both the hypothesis and earlier findings (Bahrami & Yousefi, 2011; Robichaud, Dugas, & Conway, 2003). However, no sex difference was found regarding positive metacognitions in any of the samples.

The Midwestern student sample stands out as the only sample without sex differences in neither worry nor metacognitions. This sample has a considerably lower mean age compared to the two other samples. Thus, the differences between the samples might arise, at least partly, from age differences (Hale, Klimstra, & Meeus, 2010). Yet, sex differences are

expected to arise during adolescence (Hyde, Mezulis, & Abrahamson, 2008) meaning that age is insufficient in explaining the lack of sex differences in the Midwestern student sample. It is possible that individual variance in worry and metacognitions are associated with other factors than sex in early adulthood, e.g. socioeconomic status. However, even though there were no significant sex difference in worry in the Midwestern student sample, there was a tendency of women worrying more than men, with a significance level only slightly higher than our demand.

Women in the Norwegian student sample reported both more worry and slower LH speed than men. This is interesting because our results indicated that slow LH speed predicts *less* worry. This could mean that LH speed is associated with worry within both sexes, rather than between the sexes. As previously mentioned, Young Male Syndrome (Wilson & Daly, 1985) states that men (and especially young men) tend to be more risk-taking and competitive than women to optimize fitness (Kruger & Nesse, 2006). Further, infant survival is mostly dependent upon maternal care and defense, which makes it more adaptive for women to avoid potential threats (e.g. through worry) than men (Campbell, 1999). This might explain why women reported higher levels of worry than men, despite having slower LH speed.

Sex was the strongest predictor of worry in the Norwegian student sample and the second strongest in the Midwestern student sample when we looked at the unique contribution of LH speed, metacognitions, and sex. This adds to the belief that there is an evolved mechanism which makes women worry more than men due to sex-specific adaptive strategies. However, sex did not predict worry in the General American sample, except for when sex was included as the only predictor of worry. The results of all three samples also showed that sex's effects upon worry dissipate when emotional stability is included as a control variable. This indicates that individual differences are better than sex at explaining variance in worry. With the intention of further clarifying the role of sex on worry, a possible conditional indirect effect of LH speed on worry was investigated (see appendix A). Before controlling for emotional stability, sex moderated the relationship between LH speed and negative metacognitions in the General American and Norwegian samples. However, this was only true for females. Furthermore, when including emotional stability as a covariate, the moderating role of sex dissipated. LH speed no longer predicted either worry, positive or negative metacognitions. These results bring further evidence for sex only having a subtle impact on how much we worry.

4.6 The Role of Culture upon Worry

The influence of different cultures in our samples was not considered in our initial analyses, but social factors might help us understand why the results differ somewhat between samples. Throughout their lives, people are taught norms and behaviors in accordance with their culture, and these backgrounds can influence our results in several ways. Culture can both exaggerate and mask sex differences, as societies with low gender equality are believed to create boundaries where only socially constructed traits and characteristics are tolerated (Schmitt, Realo, Voracek, & Allik, 2008; Costa, Terracciano & McCrae, 2001). In other words, biological sex differences might both be suppressed or emphasized by a culture. Sex differences can be influenced by cultural values, with individualistic cultures having more freedom of choice and equal opportunities for both sexes. Previous research also indicates that people in traditional cultures, with clear communal values and prescribed sex-roles, might rank themselves relative to only the individuals of the same sex, instead of people in general, independent of sex (Schmitt, Realo, Voracek, & Allik, 2008; Costa, Terracciano & McCrae, 2001). In this way, sex differences will be masked and eliminated. Regarding the cultures of our samples, Norway is among the world's leading countries on gender equality (Fisher, 2012), while the U.S is more average. The U.S. also has a population sixty times bigger than Norway's, and will naturally hold more cultural diversity and differentiated social classes. Thus, some differences in sex norms and behaviors between these countries are expected. This also applies in relation to the difference between the Midwestern student sample and the General American sample. Consequently, we chose to run an additional analysis where culture was accounted for (see appendix A). In this model, all three samples were merged, and culture was added as a covariate on metacognitions and worry in a mediational analysis, along with sex and emotional stability. Culture was only associated with negative metacognitions, but the association was somewhat reduced when emotional stability was accounted for. Except for this, the results were otherwise quite similar to those we have already described in previous sections.

4.7 Strengths and Limitations

The strength of this study is the use of three different samples, both across countries and societies, making it easier to assess reliability and generalizability, which is extra important when investigating ultimate explanations and underlying psychological mechanisms. However, the present study is still less than optimal in several respects. The use of self-report questionnaires causes some validity problems, e.g. due to possible under- and

overreporting of difficulties, and participants can be affected by social desirability. The respondents' answers are also influenced by how they interpret the questions, and their degree of personal insight. Memory can also influence answers given, as questions about the past might lead to a higher incidence of wrong answers. The respondents' emotional state at the time they are filling out the questionnaire will also be a possible source of error. In sum, the use of self-report questionnaires is not without weaknesses, yet they are accessible and make it easier to obtain large samples, which in turn can yield more accurate results.

Our choice of questionnaires can also be questioned. By using the Mini-K as a measurement of LH speed, we are agreeing with the assumption that the construct of LH speed is loaded onto a single higher-order factor. At the same time, it is not yet clear what the subfactors would be, and therefore not clear how the Mini-K should be divided. Even if there are subfactors in the psychometrics of LH speed, they appear to be positively correlated (Copping, Campbell & Muncer, 2014). The criticism of the psychometrics of the Mini-K and other LH measures today, highlights that within this higher-order factor, there are partly independent facets that researchers should not ignore. Yet, future research is needed to clarify what these subfacets are. Further, sex differences are rarely considered directly in psychometric life history measures. According to Copping, Campbell and Muncer (2014), the effect of sex differences has not been examined outside of the US. Thus, it is an advantage of our study that we assess the role of sex regarding LH speed. Competing goals and strategies of the sexes should not be ignored when assessing complex psychological traits and patterns (Buss, 1994; Muncer, 2011).

Optimal psychometric measurements are difficult to find, and this also applies to the measurement of worry. In this study, we wanted to measure worry in a normal population. An advantage of the WDQ is that it assesses levels of worry within different domains, which aggregates onto a hierarchically-superior worry factor. However, by only using the WDQ and not taking into account other factors that the WDQ does not assess, we could be missing some important aspects of worry. Firstly, the WDQ can be viewed as pathology-focused measurement through its main focus on the domain of self-related problems that are common in individuals with psychopathology. The WDQ is also highly correlated with the STAI Y-2 measure of trait anxiety (Davey, 1993). Further, the WDQ is based on the content of worries, as opposed to the PSWQ (Penn State Worry Questionnaire), which is based largely on frequency and intensity of worrying. One cannot be sure that these two approaches of measuring worry are tapping the same aspects of the worry process. Thus, for an accurate

measurement of worry it could be necessary to use a scale that identifies different domains of worry, in addition to providing data on frequency and intensity.

To measure levels of metacognitions, we used a shortened, non-standardized version of the MCQ. The original version of the MCQ is a 65-item scale developed to assess several dimensions of metacognitions (Cartwright-Hatton & Wells, 1997). Only six questions intended to assess positive metacognitions and six questions assessing negative metacognitions were included in our questionnaire. Therefore, whether the construct validity of this short-form version is sufficient can be questioned. It could be the case that we are assessing too few dimensions regarding metacognitions. On the other hand, those factors one included did prove to be important predictors.

The use of student samples is also a limitation that should be discussed. Although student samples are generally unrepresentative of the normal population, the degree of this can vary across countries and cultures. To accurately document national variables and trends, one should include samples which cover the general population, and not just the national “elite”. Because of their relatively homogenous cultural and social backgrounds, the Norwegian student sample can be assumed to be more representative for the national population than the Midwestern student sample is for the U.S. Therefore, the limitations of using only a student sample from Norway might be of less importance than if the situation had been reversed. Overall, we believe that our samples can provide some indications for the existing underlying mechanisms leading to worry.

One last, and rather important, limitation of this study is the use of normal populations when testing hypotheses derived from theories about pathology. As mentioned before, the theory of LH speed and its proposed influence on mental illness is a theory about pathological processes. The theory of how metacognitive beliefs can lead to more worry is also derived from knowledge about pathological worry (e.g. GAD). Yet, our samples consist of normal populations, and we have not taken the division between clinical vs. non-clinical participants into account in our analyses. Therefore, the proposed processes that some of our hypotheses were based on might not be transferable or valid for non-clinical populations such as our samples.

4.8 Further Research and Possible Clinical Applications

This study provides a starting point where metacognitive theory can be implemented as a proximate explanation for normal psychological worry processes, rather than being limited to the understanding of pathologic worry, e.g. GAD. Metacognitions might also be a

useful addition to ultimate explanations, like LH theory.

Apart from emotional stability, negative metacognition is the overall best predictor for worry. Being aware of one's attitudes towards worry, and thus be in position where one is able to evaluate the effectiveness of these attitudes, might be useful in respect of preventing excessive levels of worry. Preventative care through psychoeducation in primary health care, and even as early as in elementary school, could potentially be important contributors in this regard.

We emphasize the need of a somewhat better and more precise conceptualization of LH speed. There is a probability that indicators of LH speed, hallmarked by low complexity, mediates the relationship between LH speed and worry. Constructs of similar complexity often have stronger correlations than constructs of varying complexity, which is why future research should work towards a less complex measurement of LH speed without compromising its validity. As previously mentioned, it could be interesting to study a potential mediating effect of risk avoidance on the relationship between LH speed and worry. For now, the measurement of LH speed might be too extensive. In future studies, one should also work towards including more cultures and independent samples. If we had corresponding numbers of participants in the Norwegian and American samples, we would might obtain a clearer view regarding the association between LH speed, metacognitions and worry, and how sex and emotional stability affect those associations. A wider spectrum of cultures should also be an objective for future research.

4.9 Conclusion

Metacognitive beliefs, and negative beliefs in particular, were the best predictors of worry. This is in line with contemporary research that stresses the importance of metacognitions in the treatment of worry-related psychological disorders such as GAD (e.g. Normann, van Emmerik, & Morina, 2014). To find this association in a normal population is interesting, and it indicates that metacognitions predict how much we worry independent of clinical status.

Sex only had a limited impact on worry in this study. Women tended to worry more than men, and sex was a significant predictor in the two student samples. However, after controlling for emotional stability, sex no longer predicted worry. This indicates that individual differences have a bigger impact on normal range of worry than sex.

Of particular interest in the present study was the relationship between fast LH speed and an increase in worry. This relation was not strong, but consistent, and suggests that the

relationship between LH speed and worry is complex. Future research should take variables like emotional stability and culture into account. Emotional stability turned out to be the superior predictor of worry when it was included as a control variable, making the association between LH speed and worry dissipate. The predictive power of negative metacognitions was also halved, which suggests a strong tie between emotional stability and negative metacognitions.

In sum, findings in this study suggest that metacognitions and emotional stability are important factors when trying to understand why some people worry more than others. Still, it is too early to dismiss LH theory's potential contribution of a more accurate understanding of the mechanism behind worry. Complex phenotypes, such as LH strategies, demand much effort in research, especially when it comes to species with complex social lives. However, it is promising that something as malleable as metacognitive beliefs (Wells, 2011) seem to play a central role in how much we worry.

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Why Worry?

Appendix A – Additional analysis

Semi-Partial (part) Correlation

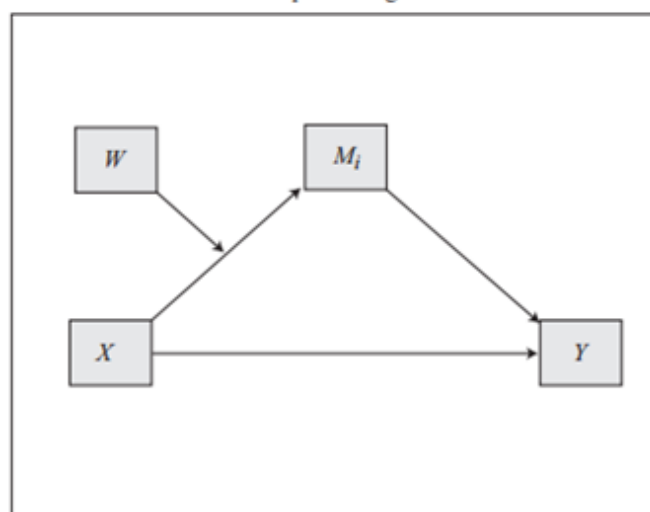
The hypothesis regarding the effect of LH speed and metacognitions on worry is one-directional and we are interested in how the independent variable LH speed may be confounded by other variables, but not the dependent variable worry. We believe that general personality, emotional stability, and health are such possible confounding variables. Therefore, semi-partial correlations were carried out (Abdi, 2007). Since one can't get a matrix of semi-partial (or multiple semi-partial) correlations from SPSS, we obtained these correlations via multiple regression analyses. The results indicated a semi-partial correlation between LH speed and worry ($r = .12, p < .05$) in the Norwegian student sample, and between LH speed and positive metacognitions ($r = .14, p < .05$). No association was found between LH speed and negative metacognitions. Regarding the American samples, no semi-partial correlations were found.

Moderated Mediation Analysis

With a hypothesis about sex as an important predictor of worry, and an expectation to find a higher prevalence of metacognitions among women (Bahrami & Yousefi, 2011), we tested if sex could be a possible moderator of the relationship between slow life history speed and worry. For this, PROCESS model 7 was used.

Model 7

Conceptual Diagram



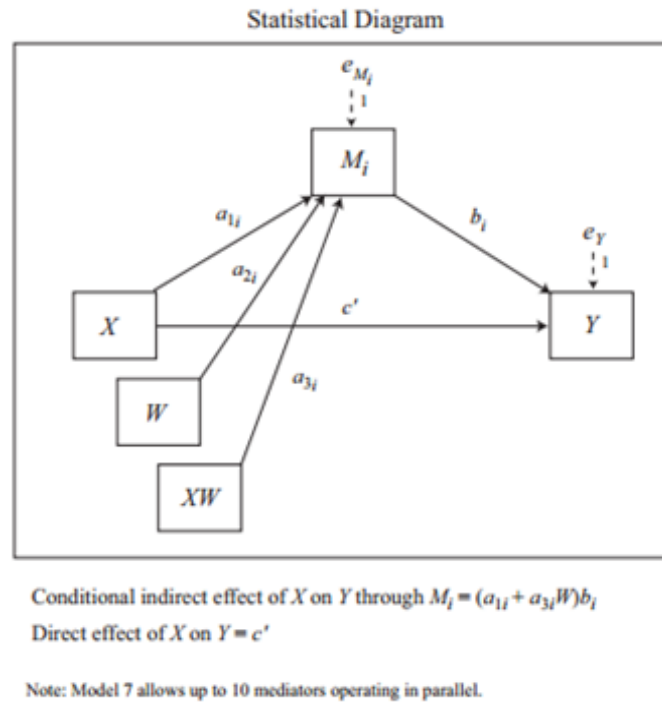


Figure 10. SPSS PROCESS Model 7

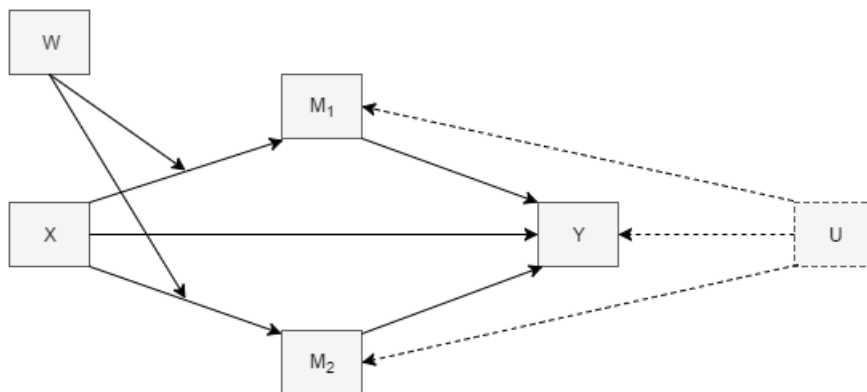


Figure 11. SPSS PROCESS Model 7 adjusted

For the Midwestern student sample, sex moderated either the relationship between slow life history speed and negative metacognitions, or for the positive metacognitions. Nevertheless, results from the Norwegian ($B = -.118$, $SE = .036$, $95\% CI = -.204, -.058$) and the General American sample ($B = -.107$, $SE = .03$, $95\% CI = -.171, -.052$), indicated that the effect of slow life history speed on worry was mediated and consequently moderated, through

sex and negative metacognitive beliefs. Moreover, this was only true when the sex was female. Approximately 35.3% of the variance in worry was accounted for by the predictors in the General American sample ($R^2 = .353$). In the Norwegian sample, approximately 23.1% of the variance in worry was accounted for by the predictors ($R^2 = .231$). When adding emotional stability as a covariate in the model, the results changed. In either of the samples, no moderated mediating effect of slow life history speed on worry through sex and metacognitions was found when emotional stability was accounted for. In the final model, approximately 45.1% of the variance in worry in the General American sample ($R^2 = .451$), and 42.2% of the variance in worry in the Norwegian sample ($R^2 = .422$), were accounted for by the predictors. The results are illustrated in figure 12 to 15.

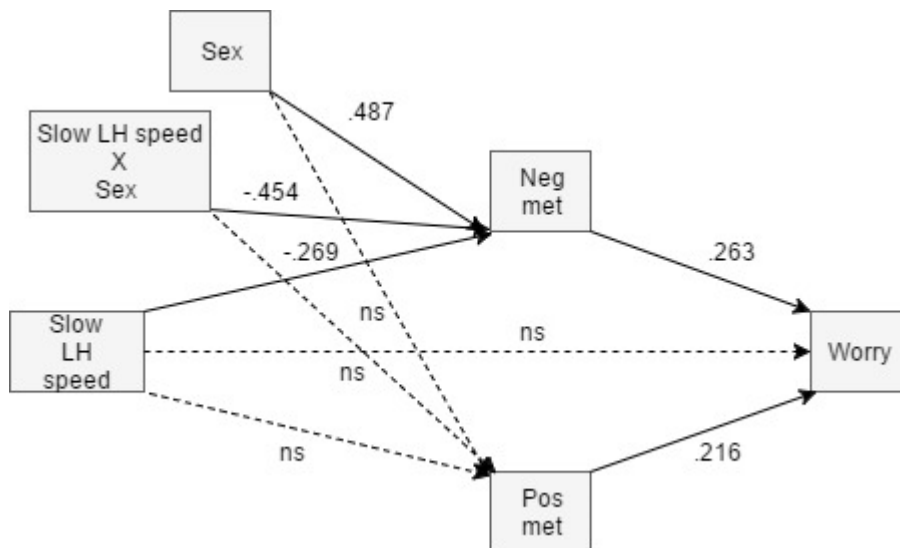


FIGURE 12. Norwegian Student Sample. Moderated mediation model 7.
 Note: ns= not statistically significant at $p < .05$.

Why Worry?

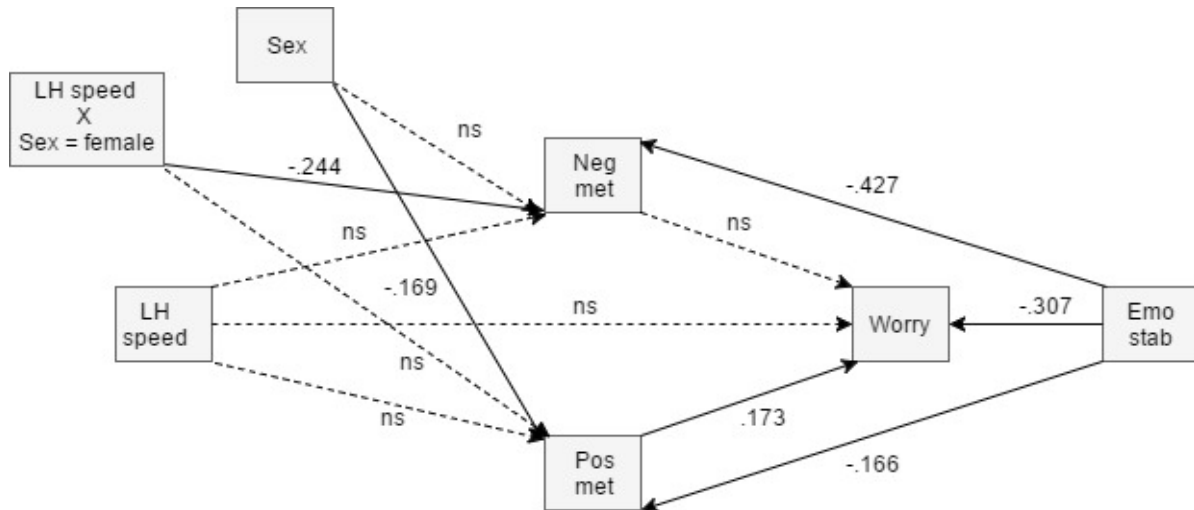


FIGURE 13. Norwegian Student Sample. Moderated mediation model 7 with one covariate. Note: ns= not statistically significant at $p < .05$.

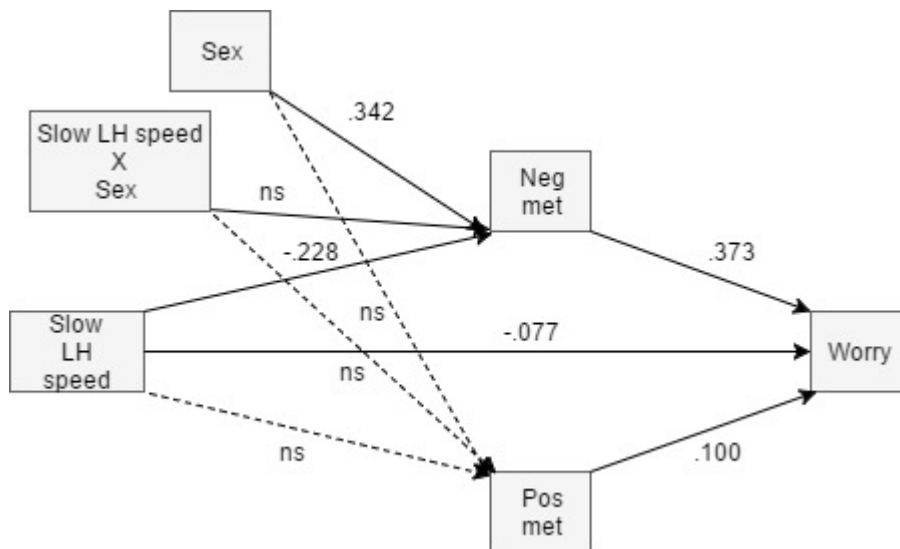


FIGURE 14. General American Sample. Moderated mediation model 7. Note: ns= not statistically significant at $p < .05$.

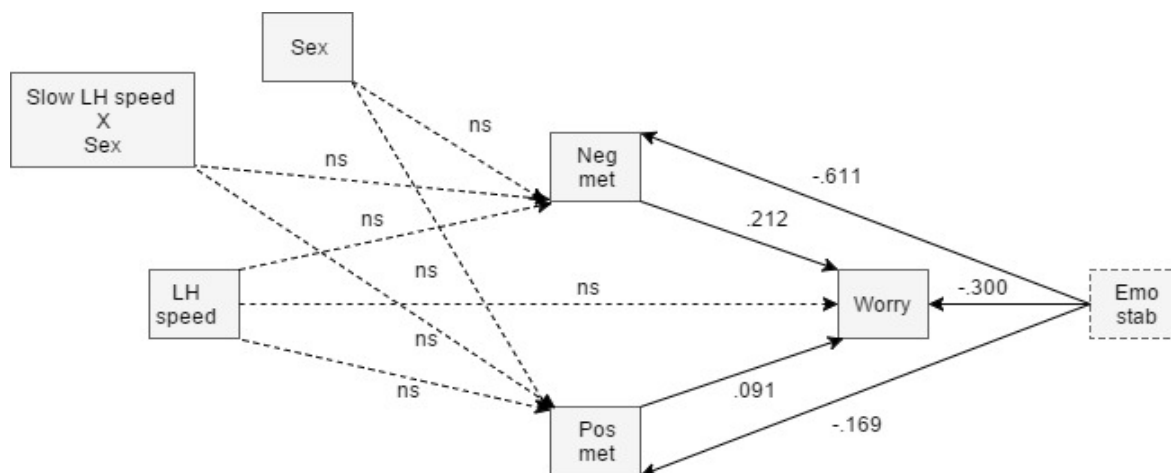


FIGURE 15. General American Sample. Moderated mediation model 7 with one covariate. Note: ns= not statistically significant at $p < .05$.

Mediation Analysis – The Role of Culture

A regression analysis was used to investigate the role of culture. The three samples were therefore merged into one sample. In the first model, only sex and culture were included as covariates (figure 16). In the second model, emotional stability was included in addition to the two, former mentioned (figure 17).

Results indicated that sex was a predictor of negative metacognitions ($B = .303, SE = .056, p < .001$), and worry ($B = .139, SE = .036, p < .001$). Culture predicted only negative metacognitions, $B = .208, SE = .033, p < .001$. But when adding emotional stability as a covariate in the model, the results changed. Now emotional stability to be the best predictor of worry, $B = -.299, SE = .025, p < .001$. Moreover, emotional stability predicted both negative ($B = -.547, SE = .030, p < .001$) and positive metacognitions ($B = -.198, SE = .031, p < .001$). Sex predicted positive metacognitions ($B = -.106, SE = .050, p < .05$), but not negative metacognitions or worry. Culture on the other hand, only predicted negative metacognitions ($B = .166, SE = .027, p < .001$), however this impact was somewhat reduced compared with when emotional stability wasn't accounted for.

In sum, culture does, at least partly, explain some of the variance in our metacognitive beliefs about worry and moreover, how much we worry.

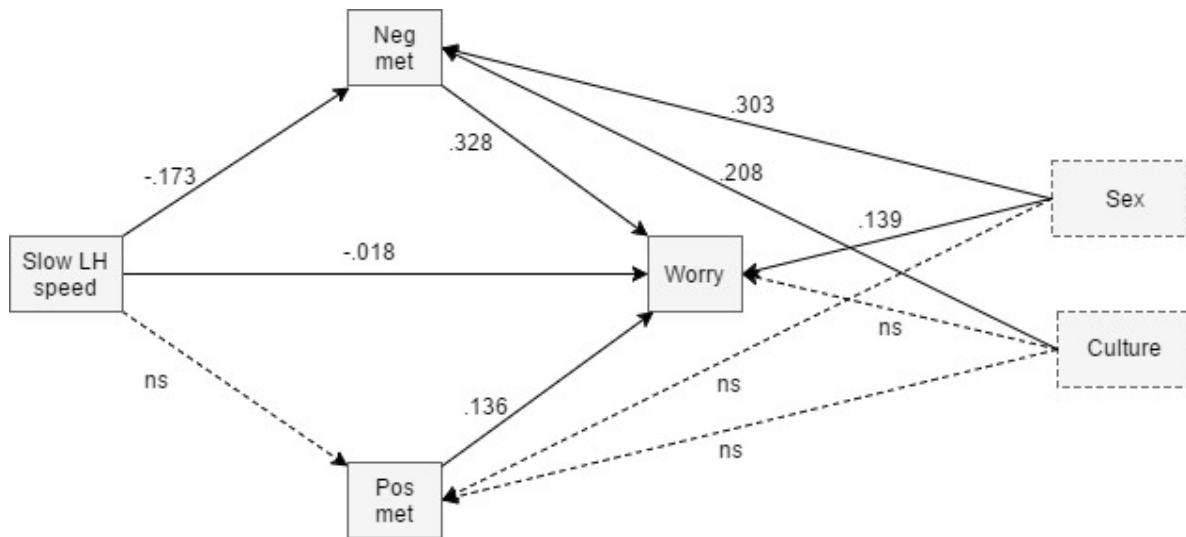


FIGURE 16. Merged Sample. Mediation model 4 with two covariates.
 Note: ns= not statistically significant at $p < .05$.

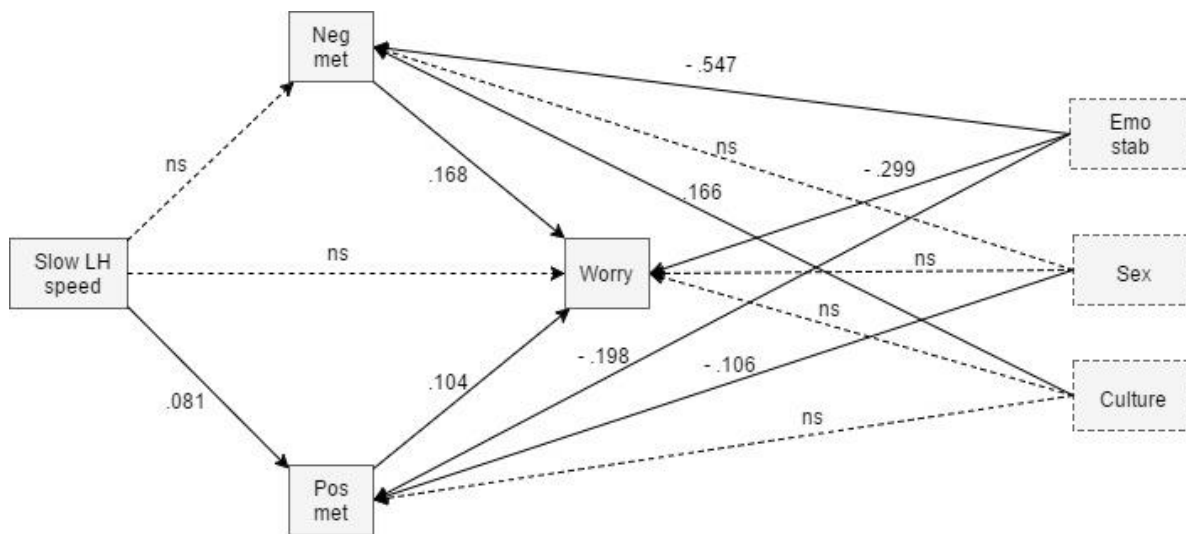


FIGURE 17. Merged Sample. Mediation model 4 with three covariates.
 Note: ns= not statistically significant at $p < .05$.

Appendix B - The Questionnaire

The next 13 pages contain the questionnaire that was used and developed in this graduate thesis. Part A contains questions about sex and age. Part B contains items from the Beck Anxiety Inventory. Part C contains items from Worry Domain Questionnaire. Part D contains items from the MIDUS worry questions. Part E contains items from Mini-K Questionnaire. Part Part F contains items from the Impulsive Behavior Questionnaire. Part G contains items from the Consideration of Future Consequences Scale. Part H contains questions about life context. Part I contains items from the State-Trait Anxiety Inventory. Part J contains items from the M5-50 Personality Scale. Part K contains items from the Ten-Item Personality Inventory. Part L and M contains items from MIDUS Health Questionnaire. Part N contains items from the Meta-Cognitions Questionnaire. Part O contains items from the Risk over Gains and Losses Questionnaire. Part P contains questions about life context. Part Q contains questions about developmental milestones. Part R contains questions about data quality. Part S contains questions about sexual orientation.

BEKYMRING, RISIKOVURDERING OG TENKNING OM TENKNING

Alle mennesker opplever fra tid til annen bekymring og angst. Formålet med denne undersøkelsen er å se om tilbøyeligheten til å oppleve disse tilstandene kan ha en sammenheng med stabilitet og forutsigbarhet i vårt sosiale miljø. Vi vil også se på om risikovurdering og hva vi tenker om egne tanker påvirker tilbøyeligheten til å oppleve angst og bekymring.

Resultatene vil bli brukt i en større internasjonal studie og i undertegnede hovedoppgaver ved Psykologisk institutt, Norges teknisk-naturvitenskapelige universitet (NTNU).

Det er frivillig å delta i undersøkelsen, og alle som svarer er anonyme. Ikke skriv navn eller annen personidentifiserende informasjon på skjemaet. Du samtykker i å delta ved å svare på spørsmålene og levere inn skjemaet. Har du spørsmål, kontakter du Regine Bakken, tlf. 452 19 171.

Takk for at du er villig til å delta i undersøkelsen!

Regine Bakken, psykologstudent
Elin Aamelfot, psykologstudent
Leif Edward Ottesen Kennair, professor, veileder



LES DETTE FØR DU STARTER!	Skjemaet skal leses maskinelt. Følg derfor disse reglene: <ul style="list-style-type: none">• <i>Bruk svart/blå kulepenn. Skriv tydelig, og ikke utenfor feltene. Kryss av slik: <input checked="" type="checkbox"/>.</i>• <i>Feil kryss kan strykes ved å fylle hele feltet med farge.</i>• <i>Sett bare ett kryss på hvert spørsmål/utsagn om ikke annet er oppgitt.</i>
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A. BAKGRUNNSINFORMASJON

1. Kjønn: ⇒ Kvinne...₁ Mann...₂

2. Alder (vennligst oppgi antall år): ⇒

I denne spørreundersøkelsen er det bare *én enkel instruksjon*: Det er viktig at du for hvert spørsmål gir den responsen som *først dukker opp i hodet ditt* og som *best beskriver deg*, uten at du bruker for mye tid på å dvele ved noen av spørsmålene. Det er ingen «riktige» eller «gale» svar på spørsmålene som stilles i denne spørreundersøkelsen. Det er viktig for kvaliteten til undersøkelsen at alle spørsmålene blir besvart.

B. OPPLEVELSER I HVERDAGEN

Hvor ofte opplever du hver av de følgende sansefornemmelsene/følelsene?
Vennligst sett ett kryss for hver sansefornemmelse/følelse.

	Aldri 1	En gang i blant 2	Ganske ofte 3	Veldig ofte 4		Aldri 1	En gang i blant 2	Ganske ofte 3	Veldig ofte 4
1. Nummenhet eller prikking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Skjelving i hendene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Følelse av å være varm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Skjelving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Ustøhet i beina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Frykt for å miste kontrollen ..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Være ute av stand til å slappe av	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Vansker med å puste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Frykt for at det verste skal skje	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Frykt for å dø	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Svimmelhet eller ørhet i hodet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. Redsel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Hjertebank eller urolig hjerte..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. Fordøyelsesproblemer eller ubehag i magen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Ustøhet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19. Besvimelse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Være livredd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. Rødming (i ansiktet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Nervøsitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21. Svetteing (men ikke på grunn av varme)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Fornemmelse av å bli kvalt ..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

C. BEKYMRING – DEL 1

Å bekymre seg er å være engstelig for og å tenke på problemer som du kanskje kan møte på i fremtiden, eller som du mener at du har nå. Selv om personer bekymrer seg, så blir de ikke nødvendigvis nervøse (hjertebank, vansker med å puste, anspenthet etc.). Kryss av for hvor mye du *vanligvis* bekymrer for hver av de følgende hendelsene:

Jeg bekymrer meg for ...	<i>Ikke i det hele tatt</i> 1	<i>Litt</i> 2	<i>Moderat</i> 3	<i>Svært mye</i> 4
1. ... at jeg vil miste nære venner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ... at jeg ikke er attraktiv for det motsatte kjønn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. ... at familien min skal bli sint på meg eller mislike noe jeg gjør	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. ... at jeg synes det er vanskelig å opprettholde et stabilt forhold.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. ... at jeg ikke er elsket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. ... at jeg ikke kan fremstå som selvsikker eller uttrykke mine meninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. ... at andre ikke vil godta meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. ... at jeg mangler selvsikkerhet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. ... at jeg kanskje vil dumme meg ut.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. ... at jeg føler meg usikker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. ... at jeg aldri vil nå mine ambisjoner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. ... at jeg ikke har oppnådd noe bemerkelsesverdig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. ... at mine fremtidige jobbutsikter ikke er gode.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. ... at livet kanskje ikke har noen mening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. ... at jeg ikke har evne til å konsentrere meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. ... at jeg vil komme for sent til en avtale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. ... at jeg avslutter arbeid før det er gjort ferdig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. ... at jeg vil gjøre feil på jobb/skole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. ... at jeg ikke jobber hardt nok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. ... at jeg ikke vil klare å holde tritt med arbeidsoppgavene mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. ... at jeg vil gå tom for penger.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. ... at jeg ikke har råd til ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. ... at økonomiske problemer vil sette begrensninger for ferier og reiser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | Ikke i det hele tatt
1 | Litt
2 | Moderat
3 | Svært mye
4 |
|--|---------------------------|--------------------------|--------------------------|--------------------------|
| 24. ... at mine levevilkår vil være mangelfulle..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. ... at jeg ikke har nok penger til å betale regninger | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. ... at det er millioner som sulter i den tredje verden, når «fjell» av mat eksisterer andre steder . | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. ... at menneskerettigheter blir brutt | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. ... at miljøet blir forurenset/ødelagt..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. ... at folk behandler hverandre forferdelig over hele verden..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. ... at tilbudet om helsetjenester er nedadgående | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

D. BEKYMRING – DEL 2

- | | | | | | |
|--|--------------------------------|----------------------------|---|----------------------------|----------------------------|
| 1. Til vanlig, så bekymrer du deg: ⇨ | Hver dag..... | <input type="checkbox"/> 1 | Litt mindre enn halvparten av dagene... | <input type="checkbox"/> 4 | |
| | De fleste dager | <input type="checkbox"/> 2 | En liten del av dagene | <input type="checkbox"/> 5 | |
| | Omtrent halvparten av dagene.. | <input type="checkbox"/> 3 | Sjelden | <input type="checkbox"/> 6 | |
| 2. På dager hvor du bekymrer deg, så vedvarer bekymringen vanligvis: ⇨ | Hele dagen | <input type="checkbox"/> 1 | Litt mindre enn halvparten av dagen ... | <input type="checkbox"/> 4 | |
| | Mesteparten av dagen..... | <input type="checkbox"/> 2 | En liten del av dagen..... | <input type="checkbox"/> 5 | |
| | Omtrent halvparten av dagen .. | <input type="checkbox"/> 3 | Ikke mer enn noen minutter..... | <input type="checkbox"/> 6 | |
| 3. Bekymrer du deg for ting som sannsynligvis ikke vil skje? ⇨ | Ja, alltid | <input type="checkbox"/> 1 | 4. Bekymrer du deg for ting som egentlig ikke er så alvorlig? ⇨ | Ja, alltid | <input type="checkbox"/> 1 |
| | Ja, vanligvis..... | <input type="checkbox"/> 2 | | Ja, vanligvis..... | <input type="checkbox"/> 2 |
| | Ja, noen ganger . | <input type="checkbox"/> 3 | | Ja, noen ganger . | <input type="checkbox"/> 3 |
| | Ja, men sjelden .. | <input type="checkbox"/> 4 | | Ja, men sjelden .. | <input type="checkbox"/> 4 |
| | Nei..... | <input type="checkbox"/> 5 | | Nei..... | <input type="checkbox"/> 5 |

E. HOLDNINGER, ATFERD OG RELASJONER

- Hvor enig eller uenig er du i følgende utsagn? Hvis et utsagn ikke passer for deg, krysser du av for 0 («vet ikke/passar ikke»).
- | | Veldig uenig
-3 | Noe uenig
-2 | Litt uenig
-1 | Vet ikke / passer ikke
0 | Litt enig
+1 | Noe enig
+2 | Svært enig
+3 |
|--|--------------------------|--------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|
| 1. Jeg kan ofte forutsi hvordan ting vil utspille seg | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Jeg prøver ofte å forstå hvordan jeg havnet i en situasjon, for å finne ut hvordan jeg skal takle den | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Jeg klarer ofte å se det positive i en vanskelig situasjon | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Jeg gir ikke opp før jeg har løst problemene mine..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Jeg planlegger ofte på forhånd | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Jeg unngår risikofylte handlinger | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	Vet ikke /						
	Veldig uenig	Noe uenig	Litt uenig	passer ikke	Litt enig	Noe enig	Svært enig
	-3	-2	-1	0	+1	+2	+3
7. Under oppveksten hadde jeg et nært og godt forhold til min biologiske mor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Under oppveksten hadde jeg et nært og godt forhold til min biologiske far	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Jeg har et nært og godt forhold til mine egne barn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Jeg har et nært og godt forhold til min seksualpartner.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Jeg vil heller ha ett enn flere seksuelle forhold på samme tid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Jeg må være nært knyttet til noen før jeg er komfortabel med å ha samleie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Jeg snakker ofte med mine biologiske slektninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Jeg får ofte emosjonell støtte og praktisk hjelp fra mine biologiske slektninger.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Jeg gir ofte emosjonell støtte og praktisk hjelp til mine biologiske slektninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Jeg snakker ofte med vennene mine.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Jeg får ofte emosjonell støtte og praktisk hjelp fra vennene mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Jeg gir ofte emosjonell støtte og praktisk hjelp til vennene mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Jeg er veldig engasjert i lokalsamfunnet mitt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Jeg er veldig engasjert i min religion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. IMPULSIVITET OG SPONTANITET

Hvor enig eller uenig er du i følgende utsagn? Hvis et utsagn ikke passer for deg, krysser du av for 0 («vet ikke/passers ikke»).

	Vet ikke /						
	Veldig uenig	Noe uenig	Litt uenig	passer ikke	Litt enig	Noe enig	Svært enig
	-3	-2	-1	0	+1	+2	+3
1. Jeg handler på impuls.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Jeg handler på sparket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Jeg er rastløs under forelesninger eller foredrag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Jeg sier ting uten å tenke meg om.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Jeg flytter ofte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Jeg gjør visse ting så lenge det er gøy, selv om jeg vet at det ikke er bra for meg...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Jeg gjør mange ting spontant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Jeg synes det er vanskelig å sitte stille i lange perioder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Jeg har enten jobbet eller lest hele natten for å rekke en tidsfrist i siste liten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Vet ikke /						
	Veldig uenig -3	Noe uenig -2	Litt uenig -1	passer ikke 0	Litt enig +1	Noe enig +2	Svært enig +3
10. Jeg avbryter folk ofte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Jeg sier upassende ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Jeg sier ting uten å tenke meg om	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Noen ganger drikker jeg eller bruker narkotika i for store mengder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Jeg snakker fort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Noen ganger kan glede og moro hindre meg fra å få arbeidsoppgaver gjort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Noen ganger klarer jeg ikke å hindre meg selv fra å gjøre ting, selv om jeg vet at det er galt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

G. TANKER OM FREMTIDEN

I hvilken grad beskriver hvert av de følgende utsagnene deg som person?

	Svært mis- visende 1	Noe mis- visende 2	Usikker 3	Noe be- skrivende 4	Svært be- skrivende 5
1. Jeg tenker på hvordan ting kan bli i fremtiden, og forsøker å påvirke disse tingene gjennom mine daglige valg og handlinger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Jeg handler ofte med tanke på å oppnå resultater som kanskje ikke vises før om mange år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Jeg handler bare for å tilfredsstille umiddelbare bekymringer, og antar at fremtiden vil ta hånd om seg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Min atferd påvirkes bare av de umiddelbare (dvs., i løpet av noen dager eller uker) konsekvensene av mine handlinger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Bekvemmelighet spiller en stor rolle i valgene jeg tar og handlingene jeg gjør	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Jeg er villig til å ofre min umiddelbare lykke eller velvære for å oppnå fremtidige resultater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Jeg tror det er viktig å ta advarsler om negative utfall på alvor, selv om disse ikke vil forekomme på mange år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Jeg tror det er viktigere å gjennomføre handlinger med betydningsfulle fremtidige konsekvenser, enn handlinger med mindre betydningsfulle umiddelbare konsekvenser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Jeg ignorerer vanligvis advarsler om mulige fremtidige problemer, fordi jeg tror at problemene vil løse seg før de når et kritisk nivå	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Jeg mener at det å gjøre oppofrelser her og nå vanligvis er unødvendig, fordi jeg tenker at fremtidige utfall kan tas hånd om på et senere tidspunkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | | |
|---|----------------------------|--------------------------|--------------------------|---------------------------|-----------------------------|
| | Svært mis-
visende
1 | Noe mis-
visende
2 | Usikker
3 | Noe be-
skrivende
4 | Svært be-
skrivende
5 |
| 11. Jeg handler bare med tanke på å håndtere umiddelbare problemer, fordi jeg tenker at jeg kan ta hånd om fremtidige problemer som kan dukke opp ved en senere anledning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Fordi mine daglige arbeidsoppgaver har spesifikke utfall, så er de viktigere for meg enn handlinger som kan ha mer uspesifikke, fremtidige utfall | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

H. UFORUTSETTE PROBLEMER – DEL 1

- | | | |
|--|---|---|
| 1. Til vanlig, hvor ofte støter du på viktige problemer som du ikke hadde forventet/forutsett? ⇒ | Veldig ofte..... <input type="checkbox"/> 1 | Bare av og til <input type="checkbox"/> 3 |
| | Litt ofte..... <input type="checkbox"/> 2 | Veldig sjelden <input type="checkbox"/> 4 |
| 2. Uventede, viktige problemer kan oppstå innenfor ulike områder av livet (som f.eks. familie, arbeid, romantiske forhold, sosiale situasjoner osv.). Vil du si at du har støtt på uventede, viktige problemer ... ⇒ | innenfor <i>mange</i> livsområder? .. <input type="checkbox"/> 1 | innenfor <i>få</i> livsområder?..... <input type="checkbox"/> 2 |
| | innenfor <i>bare ett</i> livsområde? . <input type="checkbox"/> 3 | |

I. UFORUTSETTE PROBLEMER – DEL 2

Vennligst tenk på hvordan du *vanligvis* føler deg når du møter på et viktig problem som du ikke hadde forventet/forutsett. Prøv å huske tilbake til slike situasjoner. Vennligst kryss av for hvert utsagn for å beskrive hvordan du *vanligvis* føler deg i en slik kontekst.

- | | | | | | | | | | |
|----------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|
| | Ikke i det
hele tatt
1 | Litt
2 | Ganske
3 | Veldig
mye
4 | | Ikke i det
hele tatt
1 | Litt
2 | Ganske
3 | Veldig
mye
4 |
| 1. Jeg føler meg rolig | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. Jeg er avslappet..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Jeg føler meg anspent | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. Jeg føler meg tilfreds..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Jeg føler meg oppskaket | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Jeg er bekymret | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

J. SELVBESKRIVELSE – DEL 1

Vennligst marker hvor godt setningene under beskriver deg.

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Dårlig
1 | Ganske
dårlig
2 | Verken/
eller
3 | Ganske
godt
4 | Godt
5 |
| 1. Jeg har problemer med å komme i gang | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Jeg gjør plikt oppgaver unna med en gang..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Jeg gjør kun det arbeidet som er høyst nødvendig..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Jeg er alltid forberedt | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Jeg kaster bort tiden min | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Jeg gjennomfører planene mine | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Jeg lar ofte arbeidsoppgaver være halvgjort..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Jeg er oppmerksom på detaljer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	Dårlig 1	Ganske dårlig 2	Verken/ eller 3	Ganske godt 4	Godt 5
9. Jeg legger planer og holder meg til dem.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Jeg skulker unna pliktene mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Jeg er sjelden lei meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Jeg får lett panikk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Jeg blir ikke lett plaget av ting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Jeg føler meg ofte nedfor.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Jeg blir sjelden irritert.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Jeg misliker meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Jeg føler meg komfortabel med meg selv.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Jeg er veldig fornøyd med meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Jeg føler meg ofte nedfor.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Humøret mitt skifter ofte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

K. SELVBESKRIVELSE – DEL 2

Her er et utvalg av personlige egenskaper og trekk. Du vil se at noen av disse beskriver deg godt, mens andre ikke gjør det. Vennligst kryss av for hvor godt hvert utsagn passer for deg. Forsøk å bedømme i hvilken grad hvert enkelt *utsagnspar* passer for deg, selv om *ett* av utsagnene passer deg bedre.

	Meget uenig 1	Uenig 2	Litt uenig 3	Verken /eller 4	Litt enig 5	Noe enig 6	Veldig enig 7
1. Utadvendt, entusiastisk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Kritisk, kverulerende	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Pålitelig, selvdisciplinert.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Engstelig, lett opprørt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Åpen for nye erfaringer, kompleks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Reservert, stille.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Sympatisk, varm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Uorganisert, skjodesløs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Rolig, emosjonell stabil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Konvensjonell, lite kreativ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

L. HELSE

- | | |
|--|--|
| <p>1. Hvordan er din <i>fysiske helse</i> vanligvis? ⇒</p> <p>Utmerket..... <input type="checkbox"/>₁
 Veldig god <input type="checkbox"/>₂
 God..... <input type="checkbox"/>₃
 Akseptabel..... <input type="checkbox"/>₄
 Dårlig..... <input type="checkbox"/>₅</p> | <p>2. Hva med din <i>mentale eller emosjonelle helse</i>? ⇒</p> <p>Utmerket..... <input type="checkbox"/>₁
 Veldig god..... <input type="checkbox"/>₂
 God..... <input type="checkbox"/>₃
 Akseptabel..... <input type="checkbox"/>₄
 Dårlig..... <input type="checkbox"/>₅</p> |
| <p>3. Sammenlignet med de fleste andre menn/kvinner på din alder, hvordan vil du si at din generelle helse vanligvis er? ⇒</p> | <p>Mye bedre..... <input type="checkbox"/>₁
 Noe bedre..... <input type="checkbox"/>₂
 Omtrent det samme..... <input type="checkbox"/>₃
 Noe verre..... <input type="checkbox"/>₄
 Mye verre..... <input type="checkbox"/>₅</p> |
| <p>4. I løpet av de siste 30 dagene, hvor mange dager var du <i>totalt ute av stand</i> til å dra på arbeid/skole eller gjennomføre vanlig husarbeid på grunn av din fysiske eller psykiske helse? <i>Skriv antall dager i feltet. Skriv 0 hvis ingen.</i> ⇒</p> | <div style="border: 1px solid black; width: 60px; height: 25px; margin-left: 10px;"></div> |
| <p>5. Hvor mange av de resterende dagene av de siste 30 dagene måtte du <i>kutte ned</i> på arbeidsmengde, eller på hvor mye du fikk gjennomført, på grunn av din fysiske eller psykiske helse? <i>Skriv antall dager i feltet. Skriv 0 hvis ingen.</i> ⇒</p> | <div style="border: 1px solid black; width: 60px; height: 25px; margin-left: 10px;"></div> |

M. ERFARING MED HELSETJENESTER

- | | |
|---|--|
| <p>1. Mange føler noen ganger behov for å gå i psykoterapi og/eller søke psykiatrisk hjelp. Har du noen gang gått i terapi eller inntatt psykiatriske medikamenter? ⇒</p> | <p>Ja..... <input type="checkbox"/>₁
 Nei..... <input type="checkbox"/>₂</p> |
| <p>2. Har du gått i terapi eller inntatt psykiatriske medikamenter i løpet av <i>det siste året</i>? ⇒</p> | <p>Ja..... <input type="checkbox"/>₁
 Nei..... <input type="checkbox"/>₂</p> |
| <p>3. Har du noen gang gått i terapi eller inntatt psykiatriske medikamenter for noe av det følgende: <i>Nerver, angst, bekymring, panikk</i>? ⇒</p> | <p>Ja..... <input type="checkbox"/>₁
 Nei..... <input type="checkbox"/>₂</p> |

N. TANKER OM BEKYMRING

Nedenfor finner du et utvalg av forestillinger som ulike personer har uttrykt. Vennligst les hvert spørsmål og angi hvor mye du vanligvis er enig.

- | | Ikke enig
1 | Litt enig
2 | Ganske enig
3 | Svært enig
4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Å bekymre meg hjelper meg å sortere ting i sinnet mitt..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Bekymringer hjelper meg å holde ut..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Jeg trenger å bekymre meg for å arbeide bra..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Å bekymre meg hjelper meg å løse problemer..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Jeg trenger å bekymre meg for å forbli organisert..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	Ikke enig 1	Litt enig 2	Ganske enig 3	Svært enig 4
6. Å bekymre meg hjelper meg å unngå problemer i fremtiden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Mine bekymringstanker går ikke bort uansett hvordan jeg forsøker å stoppe dem.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Når jeg starter å bekymre meg, kan jeg ikke stoppe.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Jeg kan gjøre meg selv syk av å bekymre meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Jeg kan ikke ignorere bekymringstankene mine.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Mine bekymringstanker kan gjøre meg gal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. At jeg bekymrer meg, er farlig for meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

O. RISIKOVURDERING

Nedenfor er det åtte hypotetiske situasjoner med ett spørsmål hver. Vennligst svar ærlig på disse, hvor du *bare tar den spesifikke situasjonen i betraktning*, uten å tenke på de andre svarene dine.

1. Forestill deg at du har spart opp en betraktelig sum med penger i banken. Du blir nå bedt om å velge mellom:

Et sikkert tap på 25% av sparepengene dine 1

En moderat risiko for å tape halvparten av sparepengene dine, og en tilsvarende sannsynlighet for å ikke tape noe... 2

En lav risiko for å tape alle sparepengene dine, og en høy sannsynlighet for å ikke tape noe..... 3
2. Forestill deg at du har blitt diagnostisert med et helseproblem som har skadelige symptomer og komplikasjoner. For å behandle dette finnes det tre alternative medikamenter. Hvilket ville du ha foretrukket?

Medikament A, med en sikker sannsynlighet for å bare lide av små symptomer og komplikasjoner..... 1

Medikament B, med en moderat risiko for å lide av moderate symptomer og komplikasjoner, og en tilsvarende sannsynlighet for å lide av verken symptomer eller komplikasjoner 2

Medikament C, med en lav risiko for å lide av intense symptomer og komplikasjoner, og en høy sannsynlighet for å lide av verken symptomer eller komplikasjoner 3
3. Forestill deg at du har en romantisk partner / seksualpartner som du liker svært godt, og at du forsøker å løse en konflikt med ham/henne. Hvordan ville du foretrukket å gjøre det, dersom disse var de eneste alternativene?

På en måte som sikret at han/hun bare ble litt mindre betatt av deg..... 1

På en måte som medfører en moderat risiko for at han/hun blir moderat mindre betatt av deg, samt en tilsvarende sannsynlighet for at du vil lykkes og at han/hun forblir like betatt av deg som tidligere 2

På en måte som medfører en lav risiko for at han/hun blir svært mye mindre betatt av deg, samt en høy sannsynlighet for at du vil lykkes og at han/hun forblir like betatt av deg som tidligere..... 3
4. Forestill deg at noen venner av deg ber deg om en viktig tjeneste. På hvilken måte ville du foretrukket å gjøre det, hvis disse var de eneste alternativene?

På en måte som medfører en sikker sannsynlighet for at de bare blir litt stolte av deg..... 1

På en måte som medfører en moderat sannsynlighet for at de blir betydelig stoltere av deg, og en tilsvarende sannsynlighet for at de blir likegyldige (verken stolt eller skuffet). 2

På en måte som medfører en liten sannsynlighet for at de blir svært stolte av deg, og en stor sannsynlighet for at de blir likegyldige (verken stolt eller skuffet). 3

5. Forestill deg at du har spart opp en betydelig sum med penger i banken. Du blir nå bedt om å velge mellom følgende:
- En sikker sannsynlighet for å øke sparepengene dine med 25% 1
 En moderat sannsynlighet for å øke sparepengene dine med 50%, og en tilsvarende sannsynlighet for å ikke øke noe.. 2
 En lav sannsynlighet til å fordoble sparepengene dine, og en høy sannsynlighet for å ikke øke noe. 3
6. Forestill deg at du ikke har noen betydelige helseutfordringer, og at legen din forteller deg om kosttilskudd. Disse består av naturlige komponenter som er helt trygge for alle å ta, og som kan forsterke flere aspekter ved helsen med langvarige effekter og øke ditt grunnlag for god helse. Hvilket tilskudd ville du ha foretrukket, dersom du tok noen?
- Et tilskudd med en sikker sannsynlighet for å bedre din helse både nå og i framtiden..... 1
 Et tilskudd med en moderat sannsynlighet for å bedre din helse både nå og i framtiden, og en tilsvarende sannsynlighet for at det oppstår hverken bedring eller forverring 2
 Et tilskudd med en liten sannsynlighet for å bedre din helse både nå og i framtiden, og en stor sannsynlighet for at det oppstår hverken bedring eller forverring 3
7. Forestill deg at du har en romantisk partner / seksualpartner som du liker svært godt, og at du har en mulighet til å gjøre noe spesielt og nytt for ham/henne. Hvordan ville du helst gjøre det, dersom disse var de eneste alternativene?
- På en måte hvor du er helt sikker på at han/hun vil bli bare litt mer betatt av deg..... 1
 På en måte hvor det er en moderat sannsynlighet for at han/hun vil bli moderat mer betatt av deg, men en tilsvarende sannsynlighet for at han/hun vil forbli like lykkelig og betatt som tidligere 2
 På en måte hvor det er en liten sannsynlighet for at han/hun vil bli svært mye mer betatt av deg, og en tilsvarende sannsynlighet for at han/hun vil forbli like lykkelig og betatt som tidligere 3
8. Forestill deg at du vil be om unnskyldning for noe til vennene dine. Det er ulike måter å gjøre dette på. Hvilken måte ville du ha foretrukket, dersom disse var de eneste alternativene?
- En måte som medfører en sikker sannsynlighet for at de bare blir litt skuffet over deg..... 1
 En måte som medfører en moderat risiko for at de blir mer skuffet over deg, og en tilsvarende sannsynlighet for at de ikke blir skuffet..... 2
 En måte som medfører en liten risiko for at de blir svært skuffet over deg, og en stor sannsynlighet for at de ikke blir skuffet 3

P. FORUTSIGBARHET I LIVSSITUASJON

1. Har du opplevd en betydelig livshendelse (med en virkelig positiv eller traumatiserende effekt) *de siste tre månedene?* ⇒ Ja, noe virkelig betydningsfullt har skjedd 1
 Noe utenom det vanlige har skjedd, men jeg tror ikke det var så betydningsfullt 2
 Nei 3

2. Vennligst tenk på tingene som du betrakter som viktige for at du skal kunne oppnå suksess i livet. Hvor forutsigbare har disse tingene vært i livet ditt? ⇒
- | | | | | | | | |
|--|---------------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|--------------------------|
| | Fullstendig uforutsigbare | Moderat uforutsigbare | Noe uforutsigbare | Tilsvarende forutsigbare som | Noe forutsigbare | Moderat forutsigbare | Fullstendig forutsigbare |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. Hvor forutsigbare har de følgende tingene vært i ditt liv?
- | | | | | | | | |
|----------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Fullstendig uforutsigbare | Noe uforutsigbare | Litt uforutsigbare | Like uforutsigbare som | Litt forutsigbare | Noe forutsigbare | Fullstendig forutsigbare |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Et godt sted å bo | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. En sunn diett..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Husk: Bare ett kryss på hvert spørsmål.

- | | Fullstendig
uforutsigbare
1 | Noe
uforutsigbare
2 | Litt
uforutsigbare
3 | Like uforutsigbare som
forutsigbare
4 | Litt
forutsigbare
5 | Noe
forutsigbare
6 | Fullstendig
forutsigbare
7 |
|-----------------------------------|-----------------------------------|---------------------------|----------------------------|---|---------------------------|--------------------------|----------------------------------|
| 3. Personlig sikkerhet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Støtte fra familie | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Støtte fra venner | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Gode arbeidsmuligheter | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. En god romantisk partner | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Q. MILEPÆLER I UTVIKLINGEN

Vennligst oppgi rundt hvilken alder du evt. begynte å gå gjennom hver av de fysiske og psykologiske forandringene som er nevnt nedenfor.

Hvis du er usikker på når en forandring begynte, skriv gjennomsnittet av aldrene du vurderer (f.eks. hvis du tenker at en forandring begynte da du var enten 12, 13, eller 14 år gammel, så kan du skrive 13).

Hvis du *ikke* har gjennomgått en gitt forandring (f.eks. grunnet kjønnet ditt), så hopp over spørsmålet.

- | | | | |
|--|----------------------|---|----------------------|
| 1. Du begynte på din vekstspurt (rask høydevekst) ⇨ | <input type="text"/> | 6. Du begynte å få akne, kviser eller fet hud ⇨ | <input type="text"/> |
| 2. Du begynte å få kjønns hår ⇨ | <input type="text"/> | 7. Du begynte å leke mindre med leker, dukker, eller så mindre på tegnefilm ⇨ | <input type="text"/> |
| 3. Du begynte å få ansiktshår, f.eks. bart (uansett om du barberte deg eller ikke) ⇨ | <input type="text"/> | 8. Du begynte å ville tilbringe mer tid med venner enn med foreldre ⇨ | <input type="text"/> |
| 4. Stemmen din begynte å bli mørkere ⇨ | <input type="text"/> | 9. Du fikk for første gang reelle romantiske følelser for noen ⇨ | <input type="text"/> |
| 5. Du begynte å komme i puberteten ⇨ | <input type="text"/> | 10. Du gikk inn i ditt første romantiske forhold ⇨ | <input type="text"/> |

R. BESVARELSENS KVALITET

1. I hvilken grad kan du si deg enig i følgende utsagn? Uenig 1
Jeg brukte tiden jeg behøvde for å kunne svare på spørsmålene i dette spørreskjemaet på en ærlig og presis måte. ⇨ Noe enig 2
Moderat enig 3
Svært enig 4
2. Finnes det noen grunner til at vi *ikke* bør bruke dine svar? ⇨ Ja 1 Nei 2

S. SEKSUELL ORIENTERING

Til slutt ønsker vi å be deg svare på dette demografiske spørsmålet:

- | | Bare menn
1 | Hovedsakelig menn
2 | Menn litt mer enn kvinner
3 | Menn og kvinner like mye
4 | Kvinner litt mer enn menn
5 | Hovedsakelig kvinner
6 | Bare kvinner
7 | Jeg har ingen seksuelle interesser
8 |
|--|--------------------------|--------------------------|--------------------------------|-------------------------------|--------------------------------|---------------------------|--------------------------|---|
| 1. Hvem er du mest seksuelt tiltrukket av? ⇨ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |