Looming Cognitive Style and Anxiety: Moderator Role of Negative Problem Orientation and Mediator Roles of Problem-Solving Styles in this Relationship

by

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ABSTRACT

Looming Cognitive Style and Anxiety: Moderator Role of Negative Problem Orientation and Mediator Roles of Problem-Solving Styles in this Relationship

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Looming cognitive style (LCS) is an anxiety-specific cognitive vulnerability factor characterized by the tendency to form mental representations about either real or imagined threats perceived as rapidly approaching and increasing in risk. The hypothetical model of Riskind et al. (2006) stated that these mental scenarios may lead individuals to respond with maladaptive self-protective behaviors, that has not been well studied in the literature. The current study aimed to examine this relationship with the role of Social Problem-Solving dimensions and anticipated that LCS may increase individuals' proneness to use certain problem-solving styles more. It was hypothesized that negative problem orientation, impulsive and avoidant problem-solving styles may maladaptively interact with LCS leading to an increase in the vulnerability towards anxiety, whereas the interaction of LCS with rational problem-solving style may buffer it. The mediator roles of three problem-solving styles in the association between LCS and anxiety with the moderator role of negative problem orientation were investigated while depression and age were controlled. Data were collected at a single time point from 347 participants with ages between 18 – 65 via scales assessing LCS, Social Problem-Solving dimensions, anxiety and depression. The findings showed that high levels of negative problem orientation significantly moderated the effect of LCS on anxiety. The mediating role of the three problem-solving styles, and the moderating effect of negative problem orientation in the indirect effects were not significant. The current study highlights the need to re-examine the maladaptive responses produced by high LCS, and the relationship between problem-solving styles and anxiety.

Keywords: Looming cognitive style, negative problem orientation, rational problem-solving style, impulsive problem-solving style, avoidant problem-solving style, anxiety

ÖZET

Bilişsel Abartma Tarzı ve Anksiyete: Bu İlişkideki Olumsuz Problem Yöneliminin Düzenleyici Rolü ve Problem Çözme Stillerinin Aracı Rolleri

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Bilişsel abartma tarzı (BAT), hızla yaklaşan ve riski artan olarak algılanan, gerçek veya hayali tehditler hakkında zihinsel temsiller oluşturma eğilimi ile tanımlanan, kaygıya özgü bir bilişsel kırılganlık faktörüdür. Riskind ve ark.'nın varsayımsal modeli (2006), bu zihinsel senaryoların, bireyleri uyumsuz kendini koruma davranışlarıyla yanıt vermeye yöneltebileceğini belirtmektedir, ve bu literatürde yeterince çalışılmamıştır. Mevcut çalışma Sosyal Sorun Çözme modeli boyutlarının rolü ile bu ilişkiyi incelemeyi amaçlamaktadır, ve BAT'ın bireylerin belirli problem çözme stillerini kullanma eğilimlerini daha fazla artırabileceğini öngörmektedir. Negatif problem yönelimi, dürtüsel ve kaçıngan problem çözme stillerinin, BAT ile uyumsuz bir şekilde etkileşime girmesi sonucunda kişilerin kaygıya karşı savunmasızlığının artabileceği, BAT'ın rasyonel problem çözme stili ile etkileşiminin ise bu riski tamponlayabileceği varsayılmıştır. Depresyon ve yaş faktörleri kontrol altındayken, problem çözme stillerinin BAT'ın kaygı ile ilişkilendirmesindeki aracı rolü ve olumsuz sorun yöneliminin bu ilişkideki düzenleyici rolü incelenmiştir. 18-65 yaşları arasındaki 347 katılımcıdan, BAT, Sosyal Sorun Çözme boyutları, kaygı ve depresyonu değerlendiren ölçekler aracılığıyla tek bir zaman diliminde veri toplanmıştır. Bulgular, yüksek düzeyde negatif problem yöneliminin BAT'ın kaygı üzerindeki etkisini önemli ölçüde düzenlediğini göstermiştir. Üç problem çözme stilinin aracılık etkileri ve negatif problem yöneliminin dolaylı etkilerdeki düzenleyici etkisi ise anlamlı bulunmamıştır. Mevcut çalışma, yüksek BAT' nin ürettiği uyumsuz tepkilerin ve problem çözme stilleri ile kaygı arasındaki ilişkinin yeniden incelenmesine duyulan ihtiyacı vurgulamaktadır.

Anahtar kelimeler: Bilişsel abartma tarzı, negatif problem yönelimi, rasyonel problem çözme stili, dürtürsel problem çözme stili, kaçıngan problem çözme stili, kaygı

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ABBREVIATIONS

APS	Avoidant Problem-Solving Style
GAD-7	Generalized Anxiety Disorder-7
IPS	Impulsive Problem-Solving Style
LCS	Looming Cognitive Style
LMSQ-R	Looming Maladaptive Style Questionnaire-Revised
NPO	Negative Problem Orientation
PHQ-9	Patient Health Questionnaire-9
PPO	Positive Problem Orientation
PS	Problem-Solving
RPS	Rational Problem-Solving Style
SPS	Social Problem-Solving
SPSI-R	Social Problem-Solving Inventory-Revised

Chapter 1:
INTRODUCTION

1.1 A Cognitive Vulnerability: Looming Cognitive Style

Cognitive vulnerabilities are trait-like characteristics that act as maladaptive cognitive schemas in the development and maintenance of emotional disorders (Reardon & Williams, 2007). These schemas may remain dormant as long as the individual does not get exposed to a triggering event. However, with the activation of these schemas, individuals' information processing may be influenced in a way that makes individuals more prone to develop psychopathology (Beck & Clark, 2015). The content of such schema show differences across psychological disorders (Beck et al., 1987). Notably, in depression, these schemas mainly involve concepts of loss, failure, or hopelessness, whereas cognitive schemas in anxiety contain themes of threat appraisal, and helplessness (Abramson et al., 1989; Beck, 1976). In other words, exaggerated beliefs about the possibility of a threatening situation, negative consequences attached to it, and underestimation of coping resources may evoke anxiety (Beck et al., 2005).

Looming Vulnerability Model (LVM) provides a novel approach to cognitive vulnerability for anxiety disorders (Riskind & Rector, 2018) compared to classical vulnerability theories such as anxiety sensitivity (Reiss & McNally, 1985) and intolerance of uncertainty (Dugas et al., 1997) which perceive danger appraisals as static entities. LVM has shifted the focus onto the dynamic features of threat appraisal such as the velocity, direction, and acceleration of a threat (Riskind & Rector, 2018). Detecting a looming threat and reacting with a self-protective manner, may have an evolutionary origin. However, this threat overestimation may grow into "a trait like cognitive pattern" called Looming Cognitive Style (LCS), and make the individuals overestimate the potency of potential threats and underestimate their skills to deal with the threat leading to a greater vulnerability to anxiety (Riskind & Rector, 2018). In other words, LCS has been conceptualized as the tendency to form mental scenarios emphasizing the dynamic features of an internal or external threat (Riskind, 2004), and forming a mental representation of the threatening stimuli or situation as becoming more and more catastrophic and devastating every passing minute. Because high LCS individuals

appraise them as rapidly approaching, increasing in danger and sense of urgency (Riskind et al., 2021, Riskind & Williams, 2005).

LCS has two subtypes that are related with each other; “social looming”, which focuses on appraisals about looming social threats such as being rejected, or evaluated negatively in social environments, and “physical looming”, which includes cognitive biases of approaching physical dangers such as health problems or physical harm (Riskind et al., 2006). Notably, some studies found that social looming type of LCS is highly associated with social anxiety (Altan-Atalay, 2011; Riskind et al., 2011; Wiliams et al., 2005). The study of Brown and Stopa (2008) found the unique predictor role of the social looming type of LCS with the aspects of trait social anxiety. Although physical looming was not as efficient as social looming in explaining the differences among individuals with various anxiety disorders (Altan-Atalay & Sarıtaş-Atalar, 2018; Reardon & Williams, 2007), some studies found its predictive of panic disorder with agoraphobia (Riskind et al., 2011), and maladaptive freezing responses observed in simple phobias (Riskind et al., 2016).

1.2 Looming Cognitive Style as a Risk Factor for Psychopathology

LCS is postulated as an anxiety-specific cognitive risk factor (Adler & Strunk, 2010; Riskind & Rector, 2018) contributing to the development and maintenance of various anxiety-related psychopathologies such as generalized anxiety disorder (GAD) (Riskind & Williams,2005), obsessive-compulsive disorder (OCD) (Riskind & Rector, 2007), panic disorder (PD) (Riskind et al., 2010), and symptoms of social (Haikal & Hong, 2010) and specific phobia (Riskind et al., 1995). Notably, mental representations of the threat subject, which include biased evaluation of dynamic features, may differ across these disorders. For example, in the case of specific phobia, individuals with dog phobia may have mental representations of dogs as looming threats (Riskind, 1997), whereas if the feared object is spiders, the mental representations may be about spiders approaching rapidly and becoming more dangerous as a threat (Riskind et al., 1992). On the other hand, the mental representations entertained by individuals who are suffering from panic disorder more often include an evaluation of physical symptoms as rapidly growing and at increased risk (e.g., heart attack, death) (Riskind et al., 2006). These

examples indicate the specificity of looming vulnerability among anxiety related disorders (Riskind & Rector, 2018).

LCS showed significant associations with anxiety even when the level of depression is controlled (Adler & Strunk, 2010; Williams et al., 2005). Notably, Riskind et al. (2021) measured the effects of LCS on anxiety and depression in a three-wave longitudinal study. The results indicated that LCS could explain the unique variance in anxiety and predicted the changes in anxiety symptoms over two-time intervals of 6 months. Likewise, Calvete et al. (2016) investigated the nature of the relationship between LCS, social anxiety and depression at three-time points and found that the social looming type of LCS and symptoms of social anxiety predicted each other reciprocally over 12 months. Neither a reciprocal nor a significant relationship was found between LCS and depression regarding the results of both studies (Calvete et al., 2016; Riskind et al., 2021), although some have reported that LCS may predict depression or mixed anxiety-depression symptoms (Hong et al., 2017; Tzur-Bitan et al., 2012). More specifically, according to Kleiman and Riskind (2012), LCS was not associated with depression individually. However, depression appeared to be significantly associated with LCS acting in the presence of negative cognitive style, which is a depression-specific cognitive vulnerability. Compared to the association of LCS with anxiety, the association between LCS and depression is weaker and can be explained only through the overlap between anxiety and depression (Altan-Atalay, 2018a; Reardon & Williams, 2007; Riskind et al., 2007).

1.3 The Relationship between Looming Cognitive Style and Anxiety

Riskind et al. (2006) proposed a hypothetical model to explain the contribution of LCS to the etiological process of anxiety through a series of behavioral, affective, and cognitive processes. According to this model, LCS is a schematic risk factor that gets activated whenever an individual gets exposed to a danger leading to the generation of dynamic mental scenarios that are involving threatening stimuli or situations (Riskind et al., 2000). The danger could be either an accurate reflection of reality such as facing a truck with the brake blown coming towards the individual, or it may involve more internal scenarios created with vague information from the environment; for instance,

some may detect the negative signals coming from their partner implying a potential relationship problem (Riskind & Williams, 2006).

Initially, the information processing about the perceived threat becomes biased after the activation of LCS. The biased information processing includes alterations in the memory, attentional processes, and estimations about the threat. For instance, individuals may pay attention mainly to the dynamic changes in the looming threat (Riskind & Williams, 2006). Furthermore, the ideations about the threat, such as "associations, expectations, predictions, and dreams," may also be affected. Biased mental representations of the looming threat may induce excessive fear, anxiety, or a feeling of vulnerability towards the threat (Riskind & Williams, 2006). Individuals may become overwhelmed with these intense emotions and perceive themselves as having less control over them. Thus, they may fear losing control over their emotions or situations (Riskind & Kleiman, 2012). Heightened vigilance may occur as people believe they should maintain control by attending to threats or their clues. Therefore, they may also experience an increased need for action and time urgency (Riskind & Rector, 2018). These processes may cause a cognitive overload that depletes the mental resources required for effective coping, even leading to underestimate their coping skills (Riskind & Rector, 2018).

Therefore, individuals tend to rigidly rely on maladaptive compensatory and self-protective responses such as cognitive or behavioral avoidance coping strategies (Riskind & Williams, 2006). For instance, individuals with high LCS may worry more (Altan-Atalay, 2018b; Riskind & Kleiman, 2012). In cases where events are rapidly moving, and danger representations are intensifying, worry may fail to function as a problem-solving strategy. Therefore, individuals may prefer utilizing other defense behaviors such as wishful thinking or thought suppression (Riskind & Williams, 2006; 2005). Additionally, these individuals with high LCS may be more prone to initiate maladaptive ER strategies due to the sense and fear of losing control over emotions (Altan-Atalay et al., under review; Riskind & Kleiman, 2012). These self-protective behaviors, which are effective in short term but dysfunctional in long term, can maintain coping rigidity (Williams, 2002) and strengthen the biased mental representations about threat appraisal (Riskind & Williams, 2006). These maladaptive responses are based on the hypothetical model of the relationship between LCS and anxiety. However, they

have not received enough attention empirically; therefore, they need more testing to gain clarity.

1.4 The Factors Affecting the Relationship of Looming Cognitive Style with Anxiety

The degree of LCS's impact on anxiety may vary depending on other factors. Previous research has identified several trait-based characteristics or coping methods acting as the mediators and moderators in the relationship between LCS and anxiety. Notably, repetitive negative thinking has been investigated for its mediator role in the association of LCS with anxiety and depression (Altan-Atalay, 2018b). The results indicated that brooding rumination and worrying may increase the levels of anxiety for individuals with high LCS. Another study examined the relationship between LCS and anxiety through the concept of time perspective (Altan-Atalay & Yedidağ, 2021). Only the tendency to focus on the negative past experiences has been found to mediate this relationship positively. In other words, individuals exaggerating dynamic views of potential future threats may experience increased anxiety as if they are biased temporally more toward the past by viewing it unpleasantly and negatively.

The literature also contains evidence regarding the factors that moderates the effects of LCS on anxiety. More specifically, using an experimental design, Riskind and Maddux (1993) found an increase in the level of anxiety due to an interaction between perceived looming objects and low self-efficacy, defined as individuals' low expectations about their coping skills to deal with the threat. In other words, individuals may have anxiety in response to a forward-moving threat and if the individuals do not trust in their skills of dealing with that looming threat, then anxiety may increase greatly (Riskind & Maddux, 1993). Additionally, LCS was found to interact with anxiety sensitivity and negative cognitive style separately, leading individuals to experience high levels of depression, and anxiety (Kleiman & Riskind, 2012; Riskind et al., 2010). Altan-Atalay (2018c) emphasized the moderator role of maladaptive perfectionism on the relationship between LCS and anxiety, meaning that higher levels of LCS may lead to elevated levels of anxiety for individuals having negative thoughts about past mistakes and doubts about future actions. More recently, Altan-Atalay (2020) investigated the association between LCS and anxiety through the effect of negative

mood regulation expectancies (NMRE), defined as the "generalized expectancy" about whether one can deal with or regulate aversive states of mood (Catanzaro & Mearns, 1990). The result indicated that individuals with high LCS may suffer from greater anxiety when NMRE is lower in which they perceive themselves as deficient in coping methods and mood regulation (Altan-Atalay, 2020).

These studies guide the current study toward examining whether there are other factors acting as mediators and moderators in the relationship between LCS and anxiety.

1.5 A Coping Skill: Social Problem-Solving

Problem-solving is a coping strategy essential in adapting to life while dealing with the difficulties produced by oneself or the environment (Heppner & Krauskopf, 1987). Social Problem-Solving (SPS), proposed by D'Zurilla and Nezu (2002), is a multidimensional approach focusing on the process and the structures of problem-solving ability (Chang et al., 2009). According to the SPS approach, the problem-solving process is defined as when someone comes across a threat or problem in daily life; they may go under an emotional-behavioral and goal-directed process to cope with that problem based on their internal and external demands or coping resources (D'Zurilla & Nezu, 1990). The ability to cope with the problems may determine the consequences or the degree of distress one will experience in the end (Nezu, 2004). Notably, limited SPS ability can make individuals vulnerable to psychological problems, such as an increase in suicidal behavior (Esposito & Clum, 2002), depression and anxiety symptoms (Haugh, 2006; Nezu, 1987). Whereas efficient SPS ability can maintain psychological wellbeing (D'Zurilla et al., 2004), and increase one's adaptability and resilience to stressful situations (Dumont & Provost, 1999; Nezu, 2004).

1.6 The Problem Orientation in the Social Problem-Solving Model

The SPS model includes two partially independent aspects of the problem-solving process: problem orientation and problem-solving (PS) styles. The former is categorized as a metacognitive process and defined as general appraisals and awareness that individuals have about problems and their competency in solving them (Dugas et

al., 1998; Nezu et al., 2012). It encompasses positive problem orientation (PPO) and negative problem orientation (NPO) which are distinct but related dimensions (Nezu, 2004).

Problem orientation can be valuable in estimating individuals' motivation and how much effort they may put into the solution to the problem (Nezu et al., 2015). Individuals with higher PPO may perceive problems as opportunities for growth and may think that problems are solvable. They have higher self-efficacy in problem-solving skills, so they are more dedicated to the solution process and expect positive outcomes more, whereas individuals with elevated levels of NPO evaluate problems as threats and may think they are unsolvable. They lack confidence in skills, self-inefficacy, and thus expect poor outcomes (Eskin, 2012). Both have conceptual overlap with some personality factors. Notably, PPO is conceptually similar to optimism and positive affectivity, while NPO shares similarities with pessimism, negative affectivity, lower self-efficacy and lower NMRE (Bandura, 1988; Catanzo & Mearns, 1990; Chang & D'Zurilla, 1996; Ray-Yol et al., 2023). NPO has been documented to have a more robust relationship with psychopathology and can be referred to as a risk factor, whereas PPO can have a role as a protective factor (Robichaud & Dugas, 2005; Wilson et al., 2011). More specifically, Chan et al. (2009) found that decreasing symptoms of anxiety and depression may become possible when NPO is absent rather than when PPO is present. Even the absence of PPO may not make any difference in the levels of worry (Belzer et al., 2002).

The role of NPO as a risk factor for psychological disorders has been emphasized in previous studies. Compared with other dimensions of the SPS model, NPO had the most significant predictor role on psychological maladjustment in a sample of middle-aged adults and elderly (Kant et al., 1997), and adult male prisoners (McMurran & Christopher, 2009). Notably, NPO appeared to have significant associations with psychological distress (Chang et al., 2009; Siu & Shek, 2010), depression (Fergus et al., 2015; Wilson et al., 2011), trait worry and anxiety both for clinical (Romano et al., 2019) and nonclinical samples (Belzer et al., 2002; Dugas et al., 2005; Haugh, 2006). The fact that NPO was included in the intolerance of uncertainty model of GAD points out its contribution as a cognitive vulnerability for onset or maintenance of GAD (Dugas & Robichaud, 2007; Behar et al., 2009). Therefore, it can

be inferred that the relationship between NPO and anxiety has been indicated significantly and consistently in the literature.

While the literature provides evidence about NPO being a risk factor for psychological distress, NPO as a moderator has been explored by some. For example, Londahl et al. (2005) found only the significant moderator role of NPO among other SPS dimensions in the association between interpersonal conflict and internalizing symptoms. In particular, when NPO was high, conflicts between romantic partners became more influential in increasing anxiety symptoms. In the second study, Bell and D'Zurilla (2009) aimed to investigate possible mediator and moderator effects of various SPS dimensions in the relationship of daily stress with internalizing and externalizing symptoms. The findings showed when NPO was higher, men were more likely to be influenced by the daily stress leading to externalizing symptoms such as intrusive and aggressive behaviors, whereas this effect of NPO was not observed for women due to the stronger mediating effect of problem-solving styles (Bell and D'Zurilla, 2009).

The acquired problem orientation type can help predict which problem-solving styles individuals may be prone to use. For instance, NPO may facilitate individuals to apply dysfunctional problem-solving styles more (Chang, 2017; D'Zurilla et al., 2011).

1.7 The Problem-Solving Styles in the Social Problem-Solving Model

The second process of the SPS model is the problem-solving styles referring to cognitive behavioral activities that individuals employ while encountering a problem (D'Zurilla et al., 2002). The rational problem-solving style (RPS) is the constructive one referring to applying effective problem-solving skills in a systematic and goal-directed way (D'Zurilla et al., 2004). An individual utilizing RPS can define the problem, generate as many alternative solutions as possible, decide to implement the solution, and evaluate the consequences (Nezu, 2004). For instance, one may acknowledge their struggle with worthlessness and set a goal of establishing healthier bonds with themselves. Then, solutions, such as seeking professional help or dealing with a critical inner voice, can be generated. Before implementing the strategy, the individual may initiate a cost-benefit analysis for each solution and evaluate them based on their

congruency with the goal. Then, the results of the application can be evaluated (Nezu et al., 2013). RPS was found to be positively correlated with psychological wellbeing (Chang et al., 2009). Although studies on the role of RPS in psychopathology indicate it to be significantly and negatively associated with anxiety and depression (Siu & Shek, 2005), Haugh (2006) did not find any relation for RPS with either depression or anxiety (Kant et al., 1997). Furthermore, there are studies finding the relationship between depression with all dimensions of the SPS model except for RPS (D'Zurilla et al., 1998; Reinecke et al., 2001).

As can be seen, using RPS is beneficial in decreasing the risk of psychopathology development. However, the other two dysfunctional dimensions, avoidant (APS) and impulsive problem-solving styles (IPS), lead to this in the opposite way. Employing these problem-solving styles may exacerbate the ongoing problem or generate new ones (Nezu, 2004). More specifically, APS refers to not taking any responsibility in the solution process by behaving inactively or passively (Nezu, 2004). Individuals with this style may avoid confronting the problem and be less likely to initiate the solution process. They may hope that the problem will resolve itself, or they may develop an overdependence on others with a desire for a third party to take over the responsibility of the solution (Nezu, 2004). For instance, someone using APS may tend to demonstrate procrastination behavior rather than directly engaging in the solution process (Nezu & D'Zurilla, 2006). Chang et al. (2009) studied the role of SPS on stress and wellbeing and found that APS was negatively associated with psychological wellbeing. APS was found to be related to internalizing (anxiety and depression) and externalizing symptoms (Bell & D'Zurilla, 2009; Haugh, 2006). Anderson et al. (2009) pointed out that APS scored higher in a mixed sample of depressed and anxious individuals. Notably, an association of APS with anxiety was found to be moderate to strong (Siu & Shek, 2005).

Finally, IPS refers to hasty or incomplete attempts in the solution process (Nezu, 2004). Individuals using this style may generate very few alternative solutions. In addition, they may often choose the first one urgently coming to mind without reviewing the possible outcomes of the other alternatives (Eskin, 2012). For instance, individuals tending to use IPS more may prefer heavy drinking when they feel emotionally vulnerable without considering the long-term consequences of the action

(Nezu & D'Zurilla, 2006). IPS was found to be negatively associated with psychological wellbeing due to its dysfunctional aspect (Chang et al., 2009). For example, Pawluk et al. (2017) suggested that GAD patients may use IPS as a possible maladaptive strategy for emotional regulation in their heightened anxiety state. Hasegawa et al. (2015) found the prospective predictor role of IPS due to its association with higher depression symptoms even after 6 months. Although it was not found to be associated with anxiety by some (Haugh, 2006; Siu & Shek, 2005), Belzer et al. (2002) found a small but positive association with worry. Bell and D'Zurilla (2009) also indicated that higher IPS scores were associated with increased internalizing and externalizing symptoms (Anderson et al., 2009).

It should be noted that the studies focusing on the association of SPS with anxiety are inadequate compared to those investigating the role of SPS in depression or suicide (Chang et al., 2004; Eskin, 2012). SPS deficits were likely to be associated with elevated levels of anxiety or worry when SPS was measured as a general ability (total score) (Aburezeq & Kasik, 2021; Nezu, 2004). However, when the three problem-solving styles are evaluated based on their associations with anxiety and worry, some conflicting findings emerged. Notably, according to the literature, APS was the most consistent among all three problem-solving styles, which has to be directly related to anxiety and worry (Bell & D'Zurilla, 2009; Haugh, 2006). In contrast, the associations of IPS and RPS with anxiety or worry were found to be mainly weak or insignificant (Bell & D'Zurilla, 2009; Haugh, 2006; Kant et al., 1997; McMurran & Christopher, 2009; Siu & Shek, 2010). The early problem-solving literature may have supported the reason for this by indicating that worry or anxiety is more likely to emerge due to problem orientation deficiencies rather than problem-solving skills impairments (Davey, 1994; Dugas et al., 2001; Nezu, 2004). Finally, Haugh (2006) argued that SPS dimensions might succeed in predicting the unique variance of depression and shared variance between depression and anxiety but fail in predicting the unique variance of anxiety.

Apart from their associations with anxiety and depression, the literature also includes studies that analyzed the three PS styles for their mediating effects on psychological wellbeing. Firstly, Bell and D'Zurilla (2009) conducted a mediation study to examine if SPS ability may also mediate the relationship between stress and

adjustment. IPS and APS had a significant mediator role for both adjustment styles, indicating that elevated levels in these dimensions increase the likelihood of experiencing internalizing and externalizing symptoms. Secondly, Jaffee and D'Zurilla (2009) explored the influence of PS styles on the relationship between various personality traits and substance usage in adolescents. RPS has been found to mediate the relationship of hopelessness with substance use, indicating that when individuals lack hope, impairment in their effective problem-solving skills may lead to increased substance and alcohol usage. Thirdly, Calvete and Cardeñoso (2005), aiming to find the mediator role of cognitive variables for the effect of gender differences on affective and behavioral problems, found the significant mediator role of IPS for male adolescents. In other words, male adolescents may tend to act with the first thought in mind compared to female adolescents; furthermore, they will be more likely to display delinquent behavior. These studies pointing out the moderator and mediator roles of SPS dimensions guided the current study, which aims to predict whether SPS can also be associated with anxiety-specific cognitive vulnerability, LCS. In other words, the present study questions whether the SPS dimensions may correspond to maladaptive responses led by LCS.

1.8 Aims and Hypotheses of the Current Study

Through the activation of LCS, biased information processing can make the individual perceive the dangerous situation as more catastrophic and overwhelming than it really is. This may result in a high degree of fear which prompts sudden, rapid, but maladaptive responses to deal with the situation (Riskind & Rector, 2018). Riskind, Joiner, and Williams (2006) mentioned this relationship in the etiological model of LCS and anxiety, which has lacked knowledge in the literature. Therefore, the current study's first aim is to shed light on these maladaptive self-protective responses with the role of SPS dimensions. The associations between LCS and anxiety will be investigated by focusing on the mediator roles of the PS styles to reach this aim. More specifically, LCS is expected to make individuals more inclined to utilize maladaptive PS styles (IPS and APS) more frequently. In other words, higher LCS is associated with a sense of urgency, which makes the individual perceive time as passing more quickly, especially when one is exposed to a threatening situation (Riskind et al., 2006). Therefore,

individuals may be more likely to engage in sudden and rapid actions that can be displayed as IPS. Individuals with LCS may also be likely to utilize APS since avoidance leads to instant reductions in the subjectively felt distress (Riskind et al., 2006). Compared to maladaptive ones, RPS produces more effective outcomes since it deals with threats systematically (Nezu, 2004). However, individuals' tendency to use RPS is expected to be less likely due to the cognitive overload caused by LCS.

Another aim of the current study is to understand if NPO moderates the association of LCS with PS styles and anxiety. The interaction of LCS and NPO on PS styles is anticipated since NPO may encourage the usage of IPS and APS while hindering the use of RPS (Chang, 2017; D'Zurilla et al., 2011). Even though the previous research did not directly investigate the association between NPO and LCS on anxiety, the studies mentioned above focused on how concepts bearing similarities to NPO (lower self-efficacy and lower NMRE) interact with LCS in the prediction of anxiety (Altan-Atalay, 2020; Riskind & Maddux, 1993). Furthermore, individuals may evaluate the significance of stressful situations and their overall effect on them subjectively while dealing with stress (Lazarus & Folkman, 1984). Individuals may seek answers to the situation as to whether the faced situation is a threat or a challenge or whether it involves harm or loss. This primary appraisal is accompanied by a secondary appraisal in which individuals form cognitive appraisals regarding their capability to deal with the stressor (Lazarus & Folkman, 1984). Individuals who do not believe in their coping resources will be less likely to engage in a coping response. From the same token, there is a good reason to believe that NPO will interact with LCS similarly and contribute to the experience of greater anxiety. The evaluation of the threat as approaching and increasing in danger (LCS) may correspond to the primary appraisal, while doubting the problem-solving skills (NPO) may exemplify the secondary appraisal.

Although the model proposed by Riskind, Williams, and Joiner (2006) explains the association of LCS with anxiety, its relationship with maladaptive responses presented in the model has not been thoroughly tested by previous studies. Therefore, the current study will contribute to the literature by examining the association of LCS and anxiety through the mediator and moderator roles of SPS dimensions. The hypotheses of the current study are as follows;

Introduction

Hypothesis 1: LCS is expected to have significant associations with anxiety, even when the level of depression is controlled. However, the association between LCS and depression will not be significantly associated independent from anxiety.

Hypothesis 2: The relationship between LCS and anxiety is expected to be mediated by the problem-solving style; RPS (Hypothesis 2a), IPS (Hypothesis 2b) and APS (Hypothesis 2c). In particular, RPS is expected to have a negative association with both LCS and measures of anxiety and depression. However, the other two PS styles are anticipated to have a positive association with these variables.

Hypothesis 3: NPO is anticipated to act as a moderator in the relationship of LCS with different problem-solving styles. Notably, NPO may lessen the strength of the association of LCS with RPS (Hypothesis 3a) while augmenting the strength of the associations of LCS with IPS (Hypothesis 3b) and APS (Hypothesis 3c).

Hypothesis 4: NPO is expected to act as a moderator in the association between LCS and anxiety. More specifically, the nature and the direction of the relationship between LCS and anxiety are expected to change depending on the levels of NPO.

Chapter 2:
METHOD

2.1 Participants

The data were collected through the convenience sampling method. The initial sample size included 358 participants. The ones under the age of 18 and above 65, and not have Turkish as their native language were excluded. After the detection of both univariate and multivariate outliers (11 outliers), the finalized sample of the study constituted 347 participants (222 female and 121 male) aged between 18 – 65 (M =40.46, S.D =14.47). Descriptive characteristics of participants were demonstrated with their frequencies and percentages in Table 2.1. Participants' ages ranged from 18 to 65 (M =40.46, S.D =14.47). Of the 347 participants, 222 were female (% 64), 121 were male (% 34.9), 2 were defined as other (% 0.6) and of 2 participants the gender was not defined (% 0.6). %40.6 participants reported their marital status as single (N = 141), % 51.3 of them as married (N = 178), % 6.6 of them as divorced (N = 23) and % 1.4 of them as other (N = 5). According to information obtained about their highest level of education, % 0.3 completed primary school (N = 1), % 0.6 completed middle school (N = 2), % 17 completed high school (N = 59), % 58.2 completed undergraduate (202), % 19 completed graduate (N = 66), % 2.6 completed doctorate (N = 9) and % 2.3 other (N = 8). The sample group was asked about their longest-lived settlement. % 1.2 reported village (N = 4), % 0.9 town (N = 3), % 13.8 district (N = 48), % 20.5 city (N = 71), % 63.7 metropolis (N = 221). Income level was distributed as follows, % 4 being low (N = 14), % 14.4 being lower-middle (N = 50), % 51.6 being middle (N = 179), % 27.7 being upper-middle (N = 96) and % 2.3 being high (N = 8).

Table 2.1: Demographic information of the participants.

		Frequencies	Percentages
Gender	Female	222	64
	Male	121	34.9
	Other	2	0.6
	Not Defined	2	0.6
Marital Status	Single	141	40.6

	Married	178	51.3
	Divorced	23	6.6
	Other	5	1.4
Education Status	Primary School	1	0.3
	Middle School	2	0.6
	High School	59	17
	Undergraduate	202	58.2
	Graduate	66	19
	Doctorate	9	2.6
	Other	8	2.3
Longest Lived Settlement	Village	4	1.2
	Town	3	0.9
	District	48	13.8
	City	71	20.5
	Metropolis	221	63.7
Income	Low	14	4
	Lower-Middle	50	14.4
	Middle	179	51.6
	Upper-Middle	96	27.7
	High	8	2.3

2.2 Measures

2.2.1 Demographic Information Form

The demographic information was prepared to gather information about participants' age, gender, marital status, possible diagnosis, history of psychological help, and level of education and income (see Appendix B).

2.2.2 Looming Maladaptive Style Questionnaire-Revised

LMSQ-R is a self-report examination tool that has been developed to measure Looming Cognitive Style within two subscales; physical and social looming (Riskind et al., 2000). It consists of six vignettes with 18 items and participants are asked to imagine vividly being exposed to some potential threats such as public speaking, illness, and car accident. After each scenario, there are four 5-Likert type questionnaires assessing the perception of rapidly increasing risk. The total score obtained from these ratings indicates a high level of LCS. The original scale has satisfactory results including an internal consistency score of .91 and a test-retest reliability coefficient (r =

.72) (Riskind et al., 2000). In the current study, the Turkish version adapted by Altan-Atalay and Sarıtaş-Atalar (2018) was used. It has an internal consistency score of .85, significantly moderate to strong correlations with anxiety scales (r = .41) and significantly lower correlations with depression scales (r = .29), indicating the convergent validity of the Turkish version of the scale. It is included in Appendix C.

2.2.3 Social Problem-Solving Inventory-Revised

The self-report measurement instrument, a longer version of the SPSI-R, is a 5-point Likert system consisting of 52 items and assessing the main dimensions of social problem-solving ability (D'Zurilla et al., 2002). The two main dimensions of the problem-solving process are divided into 5 subscales; positive problem orientation (PPO), negative problem orientation (NPO), rational problem-solving style (RPS), impulsive/careless problem-solving style (IPS), and avoidant problem-solving style (APS). High scores can be indicated as more usage of effective problem-solving skills and less usage of dysfunctional skills. The original scale has internal consistencies ranging from .73 to .92 and the test-retest variability ranging from .74 to .87 for adult samples. In a sample of college students, this turns into a range of .76 to .95 for coefficient alphas and the range is from .72 to .88 for test-retest reliability (D'Zurilla et al., 2002). The current study used the Turkish version that has been adapted by Eskin and Aycan (2009). Internal consistency coefficients of five subscales ranged from .62 to .92 while test-retest reliability coefficients of five subscales ranged from .60 to .84 (Eskin & Aycan, 2009). It is included in Appendix D.

2.2.4 Generalized Anxiety Disorder-7

The screening tool, GAD-7, evaluates the level of anxiety based on the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders-4th edition (DSM-IV) (Spitzer et al., 2006). The scale consists of 7 items rated on a 4-point Likert type. Duration of the past two weeks should be considered while rating these items based on the frequency of experiencing distress. The scale is a valid measurement tool yielding high internal consistency (α = .92) and test-retest reliability (r = .83) (Spitzer et al., 2006). The current study used the Turkish version that is adapted by Konkan et al.

(2013). In the clinical sample, it has been found to have high reliability (α = .85) and validity. It is presented in Appendix E.

2.2.5 Patient Health Questionnaire-9

The screening instrument, PHQ-9, has been designed to measure the severity of depression through 9 items representing the symptoms of depression in DSM-IV (Kroenke, et al., 2001). Items are rated on a 4-Likert-type format. For each item, the period of the past two weeks should be considered while deciding on the extent of being bothered by that symptom. The internal reliability (α = .89) and test-retest reliability (α = .95) of the scale are found to be satisfactory (Kroenke, et al., 2001). The scale translated into Turkish with high reliability (α = .84) will be used for the current study (Sari et al., 2016) (See Appendix F).

2.3 Procedure

Before data collection, Institutional Review Board (IRB) approval was obtained from the ethics committee of Koç University. Data were collected online at a single time point. The link was distributed to the participants through various social media platforms, such as Instagram, WhatsApp, and LinkedIn. At first, informed consent was provided (see Appendix A). After confirming the participation, demographic questions (age, gender, education level, psychological history, etc.) were answered. Then, participants filled out the questionnaires Looming Maladaptive Questionnaire-Revised (LMSQ-R), Social Problem-Solving Inventory-Revised (SPSI-R), Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9) respectively. Completing the whole questionnaire lasted approximately 25 - 30 minutes.

2.4 Statistical Analysis

The data was analyzed using the IBM SPSS Statistics for Windows. First, Pearson correlation analysis was conducted between LCS, IPS, APS, RPS, NPO, anxiety, depression, gender and age. Then, by using the PROCESS macro for SPSS with a 95% confidence interval and 5000 bootstrap resamples, multiple regression, the moderated mediation (including three parallel mediators) analyses were performed to test the hypotheses of this study (Hayes, 2018). Respectively, the mediation relationship

of RPS, IPS, and APS in the association between LCS and anxiety was computed through model 4. In addition, the moderator role of NPO in the possible mediation relationship was explored with model 8. During the analyses, participants' age and depression scores were added to both models as covariate variables to filter out the shared variance between anxiety and depression. For exploratory analysis, an alternative model was tested in which depression was the outcome variable while anxiety and age were controlled.

Chapter 3:
RESULTS

3.1 Descriptive Statistics and Zero-Order Correlations

Pearson product-moment correlation analysis was conducted to examine the relationship of all variables with each other (see Table 3.1). From demographic variables, age had the most significantly correlated relationships with other variables. Age had a significant but weak correlation with gender ($r = .107$, $p < .05$). Whereas age was negatively and significantly correlated with LCS ($r = -.202$, $p < .01$), negative problem orientation ($r = -.377$, $p < .01$), avoidant problem-solving style ($r = -.285$, $p < .01$), anxiety ($r = -.366$, $p < .01$) and depression ($r = -.389$, $p < .01$). Gender was significantly and negatively correlated with negative problem orientation ($r = -.190$, $p < .01$).

There is a moderately strong relationship between LCS and negative problem orientation *(*$r = .467$, $p < .01$). The associations of LCS with the impulsive and avoidant problem-solving style were significantly and positively related (Respectively $r = .177$, $p < .01$, $r = .216$, $p < .01$). Similarly, LCS was significantly and positively correlated with anxiety ($r = .387$, $p < .01$) and depression ($r = .307$, $p < .01$).

Negative problem orientation was significantly and negatively correlated only with rational problem-solving style ($r = -.298$, $p < .01$). Negative problem orientation had significantly positive correlations with impulsive problem-solving style ($r = .347$, $p < .01$) and avoidant problem-solving style ($r = .575$, $p < .01$). Negative problem orientation correlated significantly and positively with anxiety ($r = .635$, $p < .01$) and depression ($r = .612$, $p < .01$).

The rational problem-solving style was negatively correlated with impulsive problem-solving style ($r = -.409$, $p < .01$) and avoidant problem-solving style ($r = -.243$, $p < .01$). The correlation of rational problem-solving style with anxiety was also negative but small ($r = -.117$, $p < .05$).

Results

The impulsive problem-solving style was significantly and positively correlated with avoidant problem-solving style ($r = .480$, $p < .01$). The correlations of impulsive problem-solving style with anxiety and depression were also significant and positive (Respectively, $r = .246$, $p < .01$, $r = .231$, $p < .01$).

The avoidant problem-solving style was significantly and positively correlated with anxiety and depression (Respectively $r = .388$, $p < .01$, $r = .421$, $p < .01$). Lastly, the correlation between anxiety with depression was strong and significantly positive ($r = .750$, $p < .01$).

Results

Table 3.1: Correlation matrix of variables and the descriptive statistics.

Variables	1	2	3	4	5	6	7	8	9
1 Age	-								
2 Gender	.107*								
3 LCS	-.202**	-.105							
4 NPO	-.377**	-.190**	.467**						
5 RPS	.090	.023	-.090	-.298**					
6 IPS	-.070	.075	.177**	.347**	-.409**				
7 APS	-.285**	.024	.216**	.575**	-.243**	.480**			
8 ANX	-.366**	-.062	.387**	.635**	-.117*	.246**	.388**		
9 DEP	-.389**	-.066	.307**	.612**	-.101	.231**	.421**	.750**	-
Mean	40.46	1.38	50.49	14.90	50.66	10.17	7.28	4.71	6.45
SD	14.47	.53	14.76	8.85	13.14	6.62	5.22	4.54	5.11
α			.92	.91	.93	.79	.82	.90	.85
Min.	18		18	0	13	0	0	0	0
Max.	65		86	39	80	32	26	19	23

Note. N = 347, *$p < .05$, **$p < .01$.

LCS= Looming Cognitive Style, NPO= Negative Problem Orientation, RPS= Rational Problem-Solving Style, IPS= Impulsive Problem-Solving Style, APS= Avoidant Problem-Solving Style, ANX= Anxiety, DEP= Depression, Min.= Minimum, Max. = Maximum.

3.2 The Mediator Role of Problem-Solving Styles on the Association of Looming Cognitive Style and Anxiety

The current study aimed to examine whether the three problem-solving styles (RPS, IPS, APS) mediate the association between the predictor variable, LCS, and the outcome variable, anxiety, while controlling for the variance explained by age and depression. To test the hypothesized mediation model, PROCESS model 4 (simple mediation) was conducted for every three parallel mediators. Because this model examined the conditional indirect effect through multiple mediators in the relationship between the predictor and outcome variables (Hayes, 2018).

Firstly, all three problem-solving styles were expected to mediate the relationship between LCS and anxiety while depression levels were controlled. The c' path referring to the direct effect of LCS on anxiety was statistically significant (β = .049, *SE* = .011, $p < .001$). However, the indirect effect was not significant since zero falls between the lower and upper bound of confidence intervals (β = .003, *SE* = .003, 95% CI = [-.0013, .0087]). Indicating that the three PS styles did not significantly mediate the relationship between LCS and anxiety.

More specifically, LCS was expected to be significantly associated with anxiety while RPS was anticipated to act as a mediator in this relationship. However, this (hypothesis 2a) was not supported. As shown in Figure 3.1, the association of LCS with RPS was not statistically significant (β = -.060, *SE* = .050, p = .2894) and the association of RPS on anxiety was also not significant (β = -.003, *SE* = .013, p = .9296). The indirect effect of LCS via RPS was also not significant (β = .000, *SE* = .000, 95% CI = [-.0025, .0027]). To conclude, RPS failed to mediate the association between LCS and anxiety.

IPS was also hypothesized to act as a mediator for the relationship between LCS and anxiety. Similarly, hypothesis 2b for the mediator role of IPS was rejected. The association of LCS with IPS was negative and statistically significant (β = .120, *SE* = .025, p = .0302). But the path indicating the association of IPS with anxiety was not significant (β = .043, *SE* = .029, p = .3101). The indirect effect of LCS via IPS was not

significant (β = .002, *SE* = .002, 95% CI = [-.0019, .0067]). All in all, IPS did not mediate the relationship between LCS and anxiety

Furthermore, the association of LCS with APS was also not significant (β = .084, *SE* = .018, *p* = .1005). The regression coefficient of the path of APS on anxiety was not significant (β = .041, *SE* = .038, *p* = .3422). Similar to the other two PS styles, the main indirect effect of the relationship between LCS and anxiety through APS was not significant (β = .001, *SE* = .002, 95% CI = [-.0014, .0051]). Hypothesis 2c was refuted too. APS did not have a significant mediator role in the relationship between LCS and anxiety.

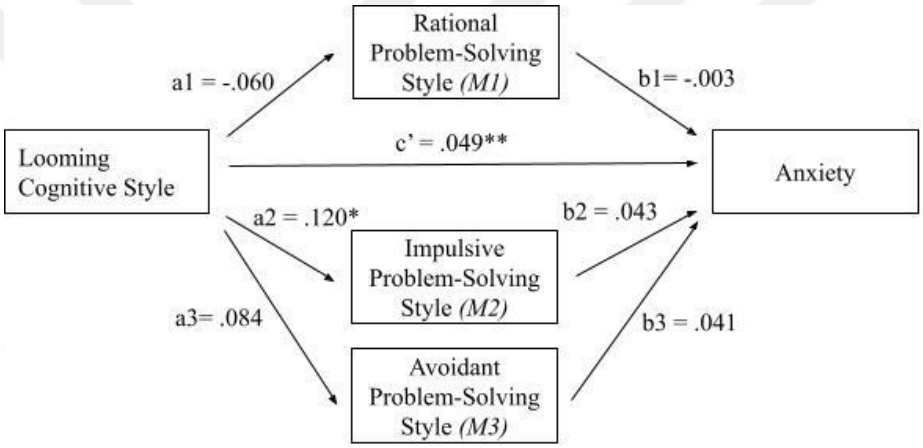

Figure 3.1: The Mediation Model of Looming Cognitive Style, Problem-Solving Styles and Anxiety

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

3.3 The Moderator Role of Negative Problem Orientation on the Association of Looming Cognitive Style, Problem-Solving Style and Anxiety

NPO was proposed as a moderator to the previous mediation model of LCS, problem-solving styles and anxiety. While controlling for age and depression variables, the moderating effect was expected both for the indirect effect of LCS and the three mediators, and also for the direct effect between LCS and anxiety. More specifically, NPO was expected to augment the role of LCS on the two mediators (IPS and APS) and the outcome variable, anxiety. In contrast, it was anticipated to decrease the role of LCS on the mediator RPS. The hypothesized moderated mediation model including three

parallel mediators was tested via PROCESS (model 8). Since this model explains the moderator effect of NPO on both the indirect paths between LCS and PS styles, and on the direct path between LCS and anxiety simultaneously (Hayes, 2018).

In particular, NPO was expected to moderate and lessen the role of LCS on RPS. However, the interaction term indicating the effect of LCS and NPO on the mediator RPS was not significant (b = .002, SE = .005, p = .7035) showing that the conditional indirect effect of LCS and anxiety through the mediator role of RPS was not significantly depending on the moderator role of NPO. Thus, hypothesis 3a was not supported.

Secondly, NPO was hypothesized to moderate the direct effect of LCS on IPS in a positive way. The interaction term of LCS and NPO on the mediator IPS was not significant (b = .000, SE = .003, p = .9498) as well. This indicates that NPO is not significantly moderating the indirect effect of LCS on anxiety through IPS. Hypothesis 3b was also rejected.

Finally, when the mediator was APS, NPO was expected to augment the role of LCS by acting as a moderator for the direct effect of LCS on APS. The interaction term was not significant (b = -.000, SE = .002, p = .8039), pointing out that the conditional indirect effect of LCS on anxiety through the mediator role of APS did not change depending on the moderator role of NPO. Hypothesis 3c was refuted.

NPO was also expected to moderate the direct effect of LCS on anxiety. LCS and NPO emerged as statistically significant roles on anxiety (Respectively b = .031, SE = .012, p = .0094; b = .121, SE = .027, p < .001), whereas the direct effect of mediators RPS, IPS and APS on anxiety were not significant (Respectively b = .012, SE = .013, p = 3749; b = .028, SE = .028, p = .3188; b = -.029, SE = .039, p = .4514). The interaction term of LCS and NPO on anxiety was negative and significant, and explained the %63 of unique variance (R^2 = .63, b = -.002, SE = .001, p = .05). There was a trend, meaning that a significant moderator role of NPO on the direct path of LCS and anxiety was found (see Table 3.2).

Results

Table 3.2: The results of moderation analysis.

	R^2	*B*	*SE*	*t*	*p*
Outcome Variable: Rational Problem-Solving Style					
LCS	.10	.055	.052	1.05	.292
NPO		-.606	.106	-5.71	< .001*
LCS x NPO		.002	.005	.381	.704
Age		-.002	.052	-.035	.972
Depression		.322	.172	1.87	.062
Outcome Variable: Impulsive Problem-Solving Style					
LCS	.13	.009	.026	.345	.731
NPO		.253	.053	4.80	< .001*
LCS x NPO		.000	.003	.063	.950
Age		.037	.026	1.44	.152
Depression		.062	.086	.729	.467
Outcome Variable: Avoidant Problem-Solving Style					
LCS	.35	-.026	.018	-1.46	.146
NPO		.311	.036	8.64	< .001*
LCS x NPO		-.000	.002	-.249	.804
Age		-.023	.018	-1.29	.196
Depression		.099	.058	1.71	.089
Outcome Variable: Anxiety					
LCS	.63	.031	.012	2.61	.009*
NPO		.121	.027	4.47	< .001*
LCS x NPO		-.002	.001	1.95	.051*
Age		-.016	.012	-1.38	.169
Depression		.489	.039	12.5	< .001*

Post-hoc probing of the significant interaction indicated that, the conditional effect of LCS on anxiety was not significant when the level of NPO was lower (-1 *SD*; $b = .011$, $t = .71$, p = .4754), however, the conditional effect of LCS on anxiety were positive and statistically significant when the level of NPO was at the mean ($b = .031$, $t = 2.61$, $p = .0094$) and was higher (+1 *SD*; $b = .050$, $t = 3.14$, p = .0019). As illustrated

in Figure 3.2, the direct effect of LCS on anxiety appeared to be significantly positive, indicating that experiencing greater anxiety was associated with an increase in LCS only when individuals have elevated levels of NPO. On the other hand, the same effect was insignificant for individuals having lower levels of NPO. Thus, hypothesis 4 was supported.

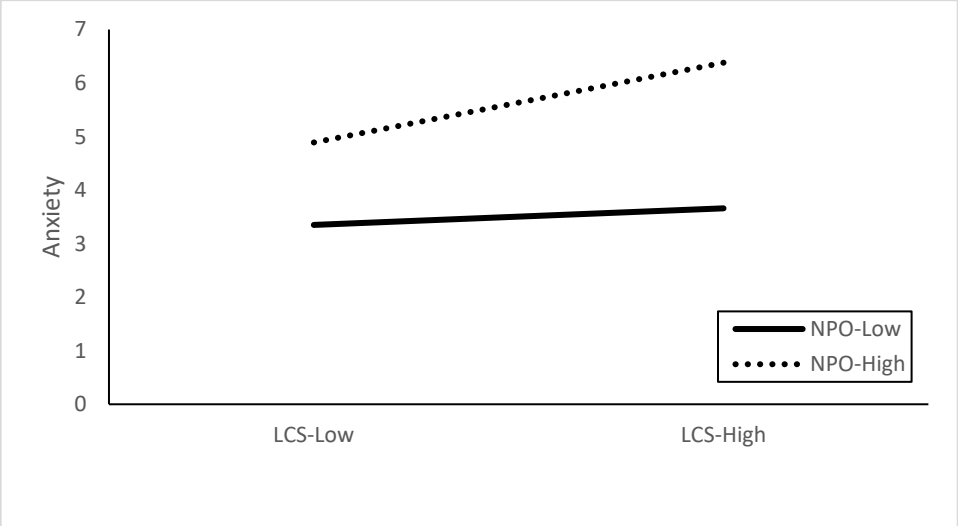

Figure 3.2: The Moderating Effect of Negative Problem Orientation on the Direct Effect between Looming Cognitive Style and Anxiety

3.4 Further Exploratory Analysis

The same mediation and moderated mediation models were reconducted with all variables remaining the same, except only changing the outcome variable to depression; therefore, covariate variables became anxiety and age. This analysis aimed to prevent the significant results between LCS and anxiety from being explained by the shared variance between anxiety and depression. LCS as an anxiety-specific cognitive vulnerability factor was not expected to be significantly associated with depression.

Model 4 was reused to investigate the mediating effect of problem-solving styles on the association between LCS and depression. According to the result of the simple mediation model, the direct effect between LCS and depression was not significant (b = .001, SE = .013, p = .9471). The indirect effect was not significant (b = .003, SE = .003, 95% CI = [-.0030, .0095]). The a, b, and c' paths of the mediation model were explained in Figure 3.3 in detail.

Results

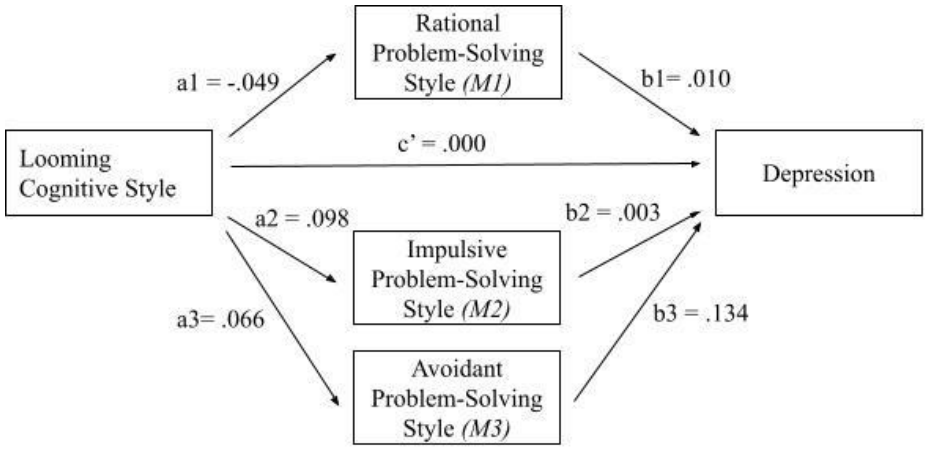

Figure 3.3: The Mediation Model of Looming Cognitive Style, Problem-Solving Styles and Depression

Model 8 was re-conducted to examine the mediating effect of problem-solving styles in the relationship of LCS and depression with the role of the moderator of NPO. Neither the direct effect between LCS and depression (b = -.014, SE = .014, p = .3186) nor the interaction term (b = .001, SE = .001, p = .5557) were significant.

Initially, when RPS was the mediator, there is not any significant moderator role of NPO in mediation because the interaction term of LCS and NPO was not significant on depression (b = .002, SE = .005, p = .7275). Secondly, when IPS was the mediator, the expected moderated mediation effect was not found due to the interaction term of LCS and NPO on depression being insignificant (b = .000, SE = .003, p = .9857). Lastly, when APS was the mediator, the interaction term of LCS and NPO on depression was not significant (b = -.000, SE = .002, p = .8886).

To conclude, NPO had a moderator role in neither the indirect relationships through the mediators nor the direct relationship between LCS and depression, when anxiety was controlled. In other words, the role of LCS disappeared when the outcome variable became depression.

Chapter 4:
DISCUSSION

The main goal of the current study was to explain the maladaptive self-protective responses produced by LCS through the dimensions of the SPS model. To our knowledge, this is the first study utilizing SPS dimensions, notably the problem-solving styles, to explain the maladaptive self-protective behaviors. In line with this, the association between LCS and anxiety was investigated by examining the mediator roles of problem-solving styles and the moderator role of negative problem orientation. The role of LCS was also hypothesized to be insignificant in the alternative model in which the outcome variable became depression. The results indicated that, although LCS was significantly associated with anxiety, the mediation hypotheses about RPS, IPS, and APS were refuted. The hypothesized moderated role of NPO was also not found for the relationship between LCS and PS styles, but NPO significantly moderated the relationship between LCS and anxiety. The hypothesized alternative model was supported as the role of LCS was lost for depression when depression became the outcome variable, and anxiety was controlled.

4.1 The Relationship between Looming Cognitive Style and Problem-Solving Styles

The findings overall revealed that, LCS seemed to have a positive but weak correlation with the dysfunctional problem-solving styles, IPS and APS. Whereas the association between LCS and RPS was not significant. These findings were congruent with the original model of LCS, indicating that LCS can make individuals rely on maladaptive responses more rather than constructive ones (Riskind & Williams, 2006).

The current study did not reveal any evidence regarding the mediator roles of RPS, IPS, and APS in the relationship between LCS and anxiety. In other words, the problem-solving behaviors covered in the SPS model did not correspond to the maladaptive self-protective behaviors that emerged due to the activation of LCS. The reason may be related to the fact that these PS styles may not be compatible with the nature of LCS due to their operational definition. In the case of high LCS, as the

information processing about a threat becomes biased, individuals may become more hypervigilant toward the threat cues and experience cognitive overload resulting in the depletion of effective coping resources (Riskind et al., 2018). More specifically, they may also perceive time to be limited and experience a sense of urgency leading to the feeling that they must do something immediately. RPS requires the planned and systematic application of problem-solving steps (D'Zurilla et al., 2004), meaning that the implementation of each of these steps may spread over time. Due to increased cognitive overload and the sense of urgency, individuals may neither devote a long time to each step of RPS nor use cognitive resources that can be beneficial in applying efficient problem-solving skills. Therefore, RPS may not be displayed by individuals with high LCS.

Although previous studies indicated that avoidance coping was associated with higher LCS (Riskind & Williams, 2005; Williams, 2002), the current study's findings did not support this argument for APS. According to the model of Riskind et al. (2006), individuals with high LCS experience increased behavioral urgency and want their problems to be solved as soon as possible. Additionally, the fears of intense emotions and loss of control over them may emerge; thus, individuals may tend to rely on rapid, sudden but maladaptive responses (Riskind & Kleiman, 2012). For instance, their coping behaviors may constitute specific maladaptive cognitive emotional regulation strategies (self- blaming, catastrophizing) (Altan-Atalay, unpublished manuscript) or dissociative responses (freezing, emotional numbness) (Riskind, 2018), rather than more direct avoidance strategies like procrastinating the solution process, changing the course of life to avoid the problem, avoiding cognitively, waiting for the third party or expecting the problem to be solved by itself (D'Zurilla et al., 2004). Therefore, individuals with LCS may have a limited inclination to utilize APS.

In line with the nature of LCS, displaying hasty and impulsive actions (Riskind et al., 2018), the current study expected IPS to be one of the maladaptive self-protective responses. Although IPS was found to have a barely significant main effect on LCS, a full mediator role for IPS was not observed. The current study did not support the previous finding of Pawluk et al. (2017) that the usage of IPS is more likely in individuals experiencing higher GAD levels. This lack of significant mediation can be explained by the relationship between problem-solving styles and anxiety.

Discussion

The current results suggest that, anxiety was negatively correlated with RPS and positively correlated with IPS and APS. However, in the regression analyses, associations between each problem-solving style and anxiety were found to be insignificant and weak; therefore, the mediation models were not supported. This finding is in line with the argument that deficiencies in problem-solving skills for anxious individuals may be due to problem orientation, rather than specific PS skills (Davey, 1994; Dugas et al., 2001; Nezu, 2004). Even some indicated that problem orientation was more influential in predicting psychological wellbeing in the nonclinical sample. In contrast, problem-solving skills were suggested to be more effective in a clinical sample (Dugas et al., 1995; Haaga et al., 1995; Kant et al., 1997; Pawluk et al., 2017). The present results are based on a nonclinical sample including participants with less severe anxiety levels. Therefore, PS styles may be justified not to be significantly related to anxiety in the proposed mediation model.

Another reason is that the studies finding significant connections between SPS deficiency and anxiety mostly measured the SPS ability as a total score (Aburezeq & Kasik, 2021; Nezu, 2004). However, when only the SPS dimensions are included in the model for their individual roles, their relationship with anxiety becomes weaker and even nonsignificant (Chang et al.,2020; Haugh, 2006; Kant et al., 1997; McMurran & Christopher, 2009; Siu & Shek, 2010). Lastly, this finding may be related to the addition of depression as a control variable to the hypothesized model. Similar to the findings of Haugh (2006), the results may suggest that SPS dimensions may be related more to depression individually and may predict the shared variance of anxiety and depression, but not the unique variance of anxiety. Therefore, the differences between depression and anxiety should be emphasized. Both may affect individuals at different stages of the problem-solving process. For instance, depressed individuals may struggle in the solution generation phase more, while anxious individuals may create solutions to problems but struggle during the solution implementation (Dugas et al., 1998; Marx et al.,1992).

4.2 The Relationship between Looming Cognitive Style and Negative Problem Orientation

The other dimension of the SPS model, NPO, has been explored for a possible moderator role in the mediation model mentioned above. According to the correlation analyses, NPO was found to have the strongest correlation with anxiety and depression, which is congruent with the previous studies (Haugh, 2006; Fergus et al., 2015; Kant et al., 1997; Nezu et al., 2004; Wilson et al., 2011). In addition, LCS was found to have a moderate and positive association with NPO; besides, NPO was significantly and positively associated with IPS and APS, while being associated significantly and negatively with RPS. While these were consistent with past literature showing that NPO can increase the use of IPS and APS, and inhibit the use of RPS (Chang, 2017; D'Zurilla et al., 2004; 2011), NPO was not found to moderate the relationship between LCS and different PS styles in the model.

In other words, NPO neither augmented nor lessened the connection of LCS on problem-solving styles. An explanation may be that LCS and NPO have a robust relationship with anxiety separately, notably LCS being an anxiety-specific factor (Riskind & Rector, 2018), and NPO being referred as one of cognitive vulnerabilities for GAD development (Dugas & Robichaud, 2007; Behar et al., 2009). In contrast, PS styles were not found to be influenced by their interaction since PS styles may tend to fail in explaining the unique variance of anxiety (Haugh, 2006). Therefore, their interaction may not work on PS styles but on anxiety and anxiety-related aspects.

As expected, the results revealed that the interaction between LCS and NPO on anxiety became significant depending on the level of NPO. More specifically, when NPO was lower, the moderator role of NPO on the relationship between LCS and anxiety became insignificant. However, high levels of NPO significantly strengthened the impact of LCS, leading to more intense forms of anxiety. In other words, individuals, who perceive problems as threats and believe less in their capacity for coping abilities or obtaining a healthy solution, are at more risk. With this attitude, their mental representations about looming threats may worsen, and their capacity to deal with them may decrease even more, followed by increased anxiety levels. This finding was similar to previous studies that found low expectancies about own coping skills

(Riskind & Maddux, 1993) and capability to deal with negative mood states (Altan-Atalay, 2020) augmented the impact of LCS on anxiety. Furthermore, this moderation finding can also be explained based on the interaction of primary and secondary appraisals proposed by Lazarus and Folkman (1984). As a cognitive vulnerability, LCS causes individuals to perceive events as threats, construct mental representations about these threats and evaluate them as rapidly approaching and becoming increasingly dangerous. This impact of LCS may resemble the primary appraisal, in which the meaning of an event or a situation judged to be either positive or stressful to wellbeing. The secondary appraisal, considering the efficiency of coping resources and skills, can determine whether individuals approach the threat. Similarly, NPO can interact with mental representations of LCS in a way that individuals may perceive these looming threats as unsolvable, have self-inefficacy in their coping ability with that threat, and have a pessimistic attitude towards future outcomes. Therefore, NPO may negatively interact with LCS by worsening the self-appraisals and leading individuals to experience increased anxiety. In other words, the implication of threat perception can be influenced by self-perception.

4.3 The Difference between Anxiety and Depression for the Impact of Looming Cognitive Style

The current study's findings also indicated that LCS directly associated with anxiety when depression was controlled. In contrast, the association of LCS with depression disappeared in the alternative model when the covariate was anxiety. This result was in line with the finding of a previous study (Riskind et al., 2006), which indicated that the association between LCS and anxiety strengthened when depression was controlled. It also supported evidence that LCS is identified as an anxiety-specific cognitive vulnerability factor rather than depression (Reardon & Williams, 2007; Williams et al., 2005). Although some studies have pointed out the comorbidity and common symptoms of depression and anxiety (Brown et al., 2001; Kessler et al., 2001), Beck's (1976) cognitive content specificity remains valid in terms of pointing out the difference between temporal focus and cognitive themes of these emotional disorders. While the temporal focus of anxiety is future-oriented, the content focus of depression is retrospective (Beck et al., 1987; Teilegen, 2019). In addition, the content of cognitive

schemas of anxiety mostly related to appraisals of psychological or physical threats, whereas depression includes themes of hopelessness, loss or negative self-assessments about the self, world, and future (Beck, 1976; Clark et al., 1989). Therefore, the content of LCS that focused on assessing the dynamic features of a future threat was beneficial in explaining the unique variance of anxiety.

4.4 Limitations, and Future Research

The current study contains some notable limitations. First of all, the study had a cross-sectional design which prevents making causality inferences from the data. Secondly, self-report measures used in which participants may likely be more prone to response bias. Longitudinal or experimental studies may be carried out to overcome these limitations. Notably, LCS can be measured through a controlled environment with artificially generated scenarios or simulations, and maladaptive responses can be measured by observing the individuals' performances in dealing with these scenarios. Finally, the generalizability of the findings can be limited by the gender distribution in the sample, as almost twice as many participants in the study are women compared to men. Therefore, when future studies evaluate these variables, replication of this model with gender-equal sample should be considered to increase the generalizability. A clinical sample can be also used to explain whether these proposed maladaptive behaviors differ among anxiety-related disorders due to the specificity of LCS. Since the current study failed to explain the maladaptive responses triggered by LCS with the problem-solving styles, subsequent studies may prioritize elaborating on the association of LCS with other types of avoidant and impulsive coping strategies (e.g., emotion regulation).

Chapter 5:
CONCLUSION

In literature, most studies examining the nature of LCS focused on the information processing phases or factors altering its impact on anxiety. Therefore, the current study aimed to give more insight into what kind of maladaptive responses can generate due to higher LCS. Therefore, an interaction between LCS and the dimensions of SPS model was anticipated to be associated with anxiety. While LCS was positively associated with anxiety, the mediator roles of RPS, IPS, and APS in this association were not found. NPO was not found to moderate the hypothesized mediation model; however, the relationship between LCS and anxiety changed depending on the degree of NPO. If NPO was lower, the moderator role was not present in the relationship between LCS and anxiety. If NPO levels were higher, it functioned as another risk factor that intensifies the effects of LCS on anxiety. Therefore, this finding may have clinical implications in the future, especially for intervention programs. Nezu et al. (2012) developed intervention methods that could reduce the NPO of individuals during problem-solving therapy (PST), such as problem orientation psychoeducation, role play, or positive visualization. Riskind and Rector (2018) have already introduced some techniques implicating cognitive behavioral therapy (CBT) to lessen the adverse effects of LCS. NPO could be targeted in these interventions to cope better with anxiety for individuals with LCS. Although the current study did not find any support for the mediator roles of PS styles, the findings highlighted the gaps in literature. Both the maladaptive self-protective responses generated by LCS and the impact of PS styles on anxiety need to be reexamined. Future research is required to shed better light on these lacking areas while considering the results and limitations of the current study.

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Appendices

Appendix A: Informed Consent Form

Değerli Katılımcı,

Bu araştırma Koç Üniversitesi Psikoloji Bölümü bünyesinde Klinik Psikoloji Yüksek Lisans öğrencisi Laçin Kantarcı tarafından Koç Üniversitesi Psikoloji Bölümü öğretim üyesi Doç. Dr. Ayşe Altan-Atalay danışmanlığında sürdürülmekte olan bir çalışmadır. Bu formu imzalayarak çalışmaya katılmayı kabul etmiş bulunuyorsunuz. Çalışmanın amacı, bilişsel abartma tarzı, sosyal problem çözme yetisi, kaygı ve depresyondaki rollerin araştırılmasıdır. Bu nedenle sizlere, bilişsel abartma tarzı, sosyal problem çözme yetisi, sıkıntıyı tolere edebilme, anksiyete ve depresyon gibi konulardaki eğiliminizi ölçmeye yönelik sorular içeren bir anket sunulacak ve sizden bunları doldurmanız istenecektir. Araştırma yaklaşık 25 – 30 dakika sürecektir.

Çalışmaya katılım tamamıyla gönüllülük esasına dayanmaktadır. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecek ve elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır. Araştırmanın sonuçları açısından sağlıklı bilgiler edinilmesi için yönergelerin dikkatlice okunması, verilen cevaplarda samimi olunması ve cevaplandırılmamış soru bırakılmaması son derece önemlidir. Sorulara verdiğiniz cevapların herhangi bir olumsuz duruma neden olması beklenmemektedir. Ancak, bir rahatsızlık hissedilmesi durumunda istediğiniz takdirde araştırmacıya başvurabilirsiniz. Katılım sırasında sorulardan ya da herhangi bir başka nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini hiçbir yaptırımla karşılaşmadan yarıda bırakmakta serbestsiniz.

Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Bu araştırma ile ilgili soru veya endişeleriniz varsa lütfen araştırmacıyla iletişime geçiniz.

Laçin Kantarcı

Tez Danışmanı: Doç. Dr. Ayşe Altan Atalay

Koç Üniversitesi Psikoloji Bölümü

Appendix B: Demographic Information Form

Yaşınız: _____

Cinsiyetiniz: □ Kadın □ Erkek □ Diğer □ Belirtmek istemiyorum

Medeni durumunuz: □ Bekar □ Evli □ Boşanmış □ Diğer: ____

Eğitim Durumunuz: / tamamladığınız en yüksek eğitim seviyesi nedir?

□ İlkokul □ Ortaokul □ Lise □ Lisans □ Yüksek Lisans
□ Doktora □ Diğer: ____

Mesleğiniz: _____

En uzun süreli yaşadığınız yerleşim birimi (yaklaşık hayatınızın ilk 17 yıllı):
□ Köy □ Bucak □ Kasaba □ İlçe □ Şehir □ Büyük şehir

Şu anda hangi şehirde yaşıyorsunuz? _____

Aylık gelir seviyenizi nasıl değerlendirirsiniz?
□ Alt □ Alt-Orta □ Orta □ Üst-Orta □ Üst
Anadilinizi belirtiniz: _____

Tanı almış bir psikolojik rahatsızlığınız var mı?

□ Evet □ Hayır
Bir önceki soruya cevabınız "evet" ise lütfen belirtiniz: _____
Daha önce ya da şu anda psikolojik yardım aldınız mı / almakta mısınız?
□ Hayır. □ Evet, geçmişte. □ Evet, halen devam etmekte.

Bir önceki soruya cevabınız "evet" ise lütfen nasıl bir yardım aldığınızı belirtiniz (örn. ilaç tedavisi, psikoterapi vs.): _____

Appendix C: Looming Maladaptive Style Questionnaire-Revised

Aşağıda bazı senaryolar sunulmuştur. Sizden istenen bu senaryoları okuduktan sonra aklınıza gelen ilk düşünceyi ya da tepkiyi yazmanızdır. Cevabınız üzerinde uzun sure düşünmeden, senaryoyla ilgili aklınıza gelenleri hemen yazınız. Her senaryoyu okuduktan sonra, senaryoyu açık ve net bir şekilde zihninizde canlandırmaya çalışın. Bu sahneyi zihninizde canlandırdığınızda ve düşündüğünüzde aklınıza ne geliyor? Senaryoya dikkatli bir şekilde odaklanın ve mümkün olduğunca açık ve net ya da canlı bir şekilde hayal etmeye çalışın. Senaryoya odaklanmayı bitirdikten sonra, zihninizde canlandırdığınız zaman neler olduğuyla ilgili soruları cevaplayınız. Lütfen mümkün olduğunca hiçbir soruyu boş bırakmayınız.

Özetle;

1. Her bir sahneyi açık ve net bir şekilde ya da canlı bir şekilde hayal edin.

2. Aklınıza gelen düşünce ve duygularla ilgili tüm soruları cevaplayınız.

Farz edin ki trafiğin çok yoğun olduğu bir saate çevreyolunda giderken arabanızın motorundan garip bir ses geldiğini duydunuz. Her iki yanınızdan da arabalar ve kamyonlar hızla geçiyor ve arabanızın motorundan her an motor bozulacakmış ya da ciddi bir problem varmış gibi sesler geliyor.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, arabanızın motoruyla ilgili bir sorunun olma olasılığı azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

Arabanızın motoru ile ilgili sorunun oluşturduğu tehdit oldukça sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

Arabanızın motorundaki sorunun gittikçe daha da kötüleştiğini gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Farz edin ki, duygusal ilişki içinde olduğunuz kişi garip davranıyor. Sizinle buluşmaya geç geliyor ve konuşmadığınız zaman aranızda uzun sessizlikler oluyor ve göz teması kurmuyor. İlişkiniz ayrılmaya doğru gidiyormuş gibi görünüyor.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, ilişkinizde bir sorunun olma olasılığı azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

İlişkinizin sona erme/bitme olasılığının oluşturduğu tehdit sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

İlişkinizin giderek kötüleşip ayrılıkla sonuçlandığını gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Farz edin ki mali (maddi) problemleriniz hakkında birisiyle konuşurken garip bir kalp çarpıntısı hissediyorsunuz. Daha önce hiç bu şekilde kalp çarpıntısı hissetmemiştiniz ve kalbinizle ilgili bir sorun ortaya çıkacakmış gibi görünüyor.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, kalbinizle ilgili bir sorunla karşılaşma olasılığı azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

Kalbinizle ilgili sorunun oluşturduğu tehdit sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

Kalbinizdeki sorunun gittikçe daha da kötüleştiğini gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Farz edin ki bir grup insan içinde oldukça gözde ve benmerkezci birine doğru yürüyorsunuz. Bu kişi sizi ilk süzdüğünde sizi görmekten rahatsız olmuş gibi görünüyor ve gruptaki birçok kişi de sizden tarafa bakıyor. Bu

kişiyi bir partiye davet etmek istiyorsunuz ama sizin davetinizi geri çevirebilir.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, bir zorluk yaşama olasılığınız azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

Geri çevrilme olasılığının oluşturduğu tehdit sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

Geri çevrilme olasılığınızın gittikçe daha da kötüleştiğini gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Farz edin ki tanımadığınız insanlardan oluşan büyük bir dinleyici grubunun önündesiniz. Çok iyi bilmediğiniz bir konu hakkında konuşuyorsunuz. Dinleyicilerden bazıları sıkılmış ve ilgisiz, bazıları ise rahatsız görünüyor. Dinleyicilerden oldukça olumsuz bir tepki alacakmışsınız gibi görünüyor.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, dinleyicilerle ilgili bir sorun yaşama olasılığınız azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

Seyircilerden kaynaklanan tehdit sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

Seyircinin tepkisinin gittikçe daha da olumsuz olduğunu gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Appendices

Farz edin ki, saat akşam 6 -trafiğin en yoğun olduğu saat ve siz de otoyolda evinize doğru ilerliyorsunuz. Arkanızdan kırmızı bir kamyon belli ki sizi fark etmemiş, çok hızlı bir Şekilde üzerinize doğru geliyor. Öyle görünüyor ki kaza yapma riskiniz oldukça yüksek.

Bu sahneyi zihninizde canlandırmak sizi ne kadar endişelendirdi ya da kaygılandırdı?

Hiç değil 1 2 3 4 5 Çok fazla

Bu sahneyi zihninizde canlandırırken, kırmızı kamyonla ilgili bir sorunun olma olasılığı azalıyor mu yoksa her geçen dakika artıyor ve daha da güçleniyor mu?

Olasılıklar zamanla azalıyor 1 2 3 4 5 Olasılıklar zamanla fazlalaşıyor

Bir kaza yapmanın sizin için oluşturduğu tehdit sabit mi kalıyor, yoksa her geçen dakika hızla artıyor mu?

Tehdit sabit kalıyor 1 2 3 4 5 Tehdit hızla büyüyor.

Kaza riskinin gittikçe daha da kötüleştiğini gözünüzde ne kadar canlandırıyorsunuz?

Hiç 1 2 3 4 5 Çok fazla

Appendices

Appendix D: Social Problem-Solving Inventory-Revised

Aşağıda, insanların günlük yaşamda sorunlarla karşılaştıkları zaman gösterebilecekleri bazı düşünce, duygu ve davranış biçimleri verilmektedir. Bu ankette geçen, ***"sorun"*** kelimesi ile yaşamınızda önemli bulduğunuz ve sizi çok rahatsız eden ama nasıl düzelteceğinizi bilmediğiniz durumlar kastedilmektedir. Sorun, sizin kendinizle (düşünceleriniz, duygularınız, davranışınız, sağlığınız veya görünümünüz ve benzeri), diğer insanlarla olan ilişkilerinizle (aile, arkadaş, öğretmen, veya patron ve benzeri), veya çevreniz ve sahip olduklarınızla (ev, araba, mülk, veya para ve benzeri) ilgili olabilir. Lütfen aşağıdaki her bir ifadeyi dikkatlice okuyunuz ve o ifadenin sizin için ne derece geçerli olduğuna karar veriniz. Burada verilebilecek cevapların doğrusu veya yanlışı yoktur. Sorunlarla karşılaştığınızda nasıl düşündüğünüzü, hissettiğinizi ve davrandığınızı hayal ediniz. Sizin için en geçerli cevabı yansıtan kutunun içine şu şekilde (X) bir çarpı işareti koyunuz. Her bir soruyu cevaplamaya çalışınız.

1. Benim için hiç doğru değil 2. Benim için birazcık doğru 3. Benim için kısmen doğru
4. Benim için çok doğru 5. Benim için tamamen doğru

1.Sorunlarımı çözmeye çalışacağım yerde onlar hakkında endişelenerek çok zaman harcıyorum.

2. Çözmem gereken önemli bir sorunum olduğunda, kendimi tehdit edilmiş ve korkmuş hissederim.

3. Karar verirken, bütün seçenekleri yeterince dikkatli bir şekilde değerlendirmem.

4. Bir karar almam gerektiği zaman, kararla ilgili her bir seçeneğin diğer insanlar üzerindeki olası etkilerini göz önüne alamam.

5. Bir sorunu çözmeye çalıştığım zaman, farklı çözümleri düşünür ve daha sonra bunların bazılarını daha iyi bir çözüme ulaşmak için birleştirmeye çalışırım.

6. Önemli bir karar almam gerektiği zaman kendimi gergin hissederim ve kendimden emin olamam.

7. Bir sorunu çözmek için ilk baştaki çabalarım başarısız olduğunda, vazgeçmeyip kolayca pes etmezsem sonunda iyi bir çözüm bulacağımın farkındayımdır.

8. Bir sorunu çözmeye çalışırken aklıma ilk gelen düşünceyle hareket ederim.

9. Bir sorunum olduğunda, çözülebileceğine inanırım.

10. Kendim çözmeye çalışmadan önce, bir sorunun kendiliğinden çözülüp çözülmeyeceğini görmek için beklerim.

11. Çözmem gereken bir sorunum olduğunda yaptığım şeylerden biri, durumu incelemek ve elde etmek istediğim sonucun önünde ne tür engellerin olduğunu bulmaya çalışmaktır.

12. Bir sorunu çözmede ilk çabalarım başarısız olduğu zaman çok fazla hayal kırıklığı yaşarım.

13. Zor bir sorunla karşılaştığımda, ne kadar çok çalışırsam çalışayım kendi başıma çözebileceğimden şüphe ederim.

14. Hayatımda bir sorun ortaya çıktığında, çözmeye çalışmayı olabildiğince ertelerim.

15. Bir sorunun çözümüyle uğraşırken çözümün doğuracağı olası bütün sonuçları dikkatlice değerlendirmek için zaman harcamam.

16. Sorunlarla uğraşmaktan kaçınmak için hayatımın akışını değiştiririm.

17. Zor sorunlar beni üzer ve telaşlandırır.

18. Vermem gereken bir karar olduğunda, her seçeneğin olumlu ve olumsuz sonuçlarını tahmin etmeye çalışırım.

19. Hayatımda sorunlar ortaya çıktığında, mümkün olan en kısa süre içerisinde onları çözmek isterim.

20. Bir sorunu çözmeye çalıştığım zaman, yaratıcı olmaya ve yeni veya orijinal çözümler düşünmeye çalışırım.

21. Bir sorunu çözmeye çalıştığımda, aklıma gelen ilk iyi fikirle hareket ederim.

22. Bir sorun için olası farklı çözüm seçeneklerini düşünmeye çalıştığımda aklıma çok fazla fikir gelmez.

23. Hayatımdaki sorunları çözmek yerine onları düşünmekten uzak durmayı tercih ederim.

24. Bir karar verirken her seçeneğin hem kısa hem de uzun vadeli sonuçlarını göz önüne alırım.

25. Bir sorunu çözdükten sonra neyin doğru neyin yanlış gittiğini incelerim.

26. Bir sorunun çözümünden sonra, duygularımı gözden geçirir ve iyi yönde ne kadar değiştiklerini değerlendiririm.

27. Bir sorunu çözmeden önce, başarı şansımı arttırmak için çözümün alıştırmasını yaparım.

28. Zor bir sorunla karşılaştığımda, yeterince gayretli çalışırsam onu tek başıma çözebileceğime inanırım.

29. Çözmem gereken bir sorun olduğunda, ilk yaptığım işlerden birisi sorun hakkında olabildiğince fazla bilgi toplamaktır.

30. Hayatımdaki sorunları çözmeyi, bıçak kemiğe dayanıncaya kadar ertelerim.

31. Sorunlardan kaçmaya onları çözmekten daha fazla zaman harcıyorum.

32. Bir sorunu çözmeye çalıştığımda, öylesine telaşlanıyorum ki net düşünemiyorum.

33. Bir sorunu çözmeye çalışmadan önce, tam olarak neye ulaşmak istediğimi bilebilmek için kendime bir hedef belirlerim.

34. Bir karar vermem gerektiği zaman, her bir seçeneğin olumlu ve olumsuz yönlerini düşünmek için zaman harcamam.

35. Bir sorunu çözdüğümde sonuç tatmin edici değilse, neyin yanlış gittiğini bulmaya çalışırım ve yeniden denerim.

36. Yaşamımdaki sorunları çözmek zorunda olmaktan nefret ediyorum.

37. Bir sorunu çözdüğümde, sorunla ilgili durumun olumlu yönde ne kadar değiştiğini olabildiğince dikkatli bir biçimde değerlendirmeye çalışırım.

38. Bir sorunum olduğunda, sorunu olumlu yönde faydalanılabilecek bir fırsat olarak görmeye çalışırım.

39. Bir sorunu çözmeye çalıştığımda, olabildiğince fazla çözüm seçeneği düşünmeye çalışırım; ta ki aklıma başka bir düşünce gelmeyinceye kadar.

40. Karar almam gerektiğinde, her bir seçeneğin sonuçlarını değerlendirip birbirleriyle karşılaştırırım.

41. Önemli bir sorunu çözmem gerektiğinde üzüntülü, bezgin ve hareketsiz olurum.

42. Zor bir sorunla karşılaştığımda, çözmek için birilerinden yardım isterim.

43. Bir karar vereceğim zaman, her bir seçeneğin duygularım üzerindeki olası etkisini hesaba katarım.

44. Çözmem gereken bir sorunum olduğunda, çevremdeki hangi etmen ve koşulların sorunun oluşmasına katkıda bulunduğunu araştırırım.

45. Karar alırken, her seçeneğin sonuçlarını düşünmeden içimden gelen duygularla hareket ederim.

46. Karar alırken, seçenekleri değerlendirmek ve birbiriyle karşılaştırmak için sistematik bir yöntem kullanırım.

47. Bir sorunu çözmeye çalışırken, amacımın ne olduğunu sürekli aklımda tutarım.

48. Bir problemi çözmeye çalışırken, soruna olabildiğince değişik açılardan bakarım.

49. Bir problemi anlamada sıkıntıya düşersem, soruna özgü ve sorunu netleştirmeye yarayacak somut bilgiler edinmeye çalışırım.

50. Bir sorunu çözmede ilk çabalarım başarısız olursa, cesaretim kırılır ve moralim bozulur.

51. Uyguladığım bir çözüm sorunumu tatminkar bir biçimde çözmezse, neden o çözümün işe yaramadığını araştırmak için zaman harcamam.

52. Karar vermem söz konusu olduğunda çok fazla düşünmeden hareket ederim.

Appendix E: Generalized Anxiety Disorder

Son iki hafta içinde aşağıdaki problemler size ne sıklıkla rahatsız etti?

	Hiç	Birkaç gün	Günlerin yarısından fazla	Hemen hemen her gün
1. Kendini sinirli, kaygılı veya çok gergin hissetme				
2. Üzgün, depresif veya umutsuz hissetmek				
3. Farklı şeylerden çok fazla endişelenme				
4. Gevşemede güçlük çekme				
5. Sakince oturmayacak kadar kendini huzursuz hissetme				
6. Kolayca kızma ve asabileşme				
7. Sanki çok kötü bir şey olacakmış gibi korku duyma				

Herhangi bir problem işaretlediyseniz, bu problemler sizin için şunları ne kadar zorlaştırdı:

işinizi yapmak, evdeki işleri yapmak veya başkalarıyla geçinmek

Hiç	Biraz	Çok	Aşırı derece

Appendix F: Patient Health Questionnaire-9

Son iki hafta içinde aşağıdaki problemler size ne sıklıkla rahatsız etti?

	Hiç	Birkaç gün	Günlerin yarısından fazlasında	Hemen hemen her gün
1.Bir şey yapmak konusunda ilgisizlik veta zevk almamak				
2.Üzgün, depresif veya umutsuz hissetmek				
3.Uykuya dalmada veya uyumaya devam etmekte zorluk veya çok fazla uyumak				
4.Yorgun hissetmek veta enerjinizin az olması				
5.İştahsızlık veya çok fazla yemek				
6.Kendinizi kötü hissetmeniz – veya kendinizi başarısız ya da kendinizi veya ailenizi hayal kırıklığına uğrattığınızı düşünmeniz				
7.Gazete okumak veya televizyon seyretmek gibi faaliyetlerde dikkatinizi toparlamakta güçlük çekmeniz				
8.Başkalarının fark edeceği kadar yavaş hareket etmeniz veya konuşmanız. Veya tam aksine- normalden çok daha fazla hareket edecek kadar kıpır kıpır ve huzursuz olmanız				
9.Ölmüş olsanız daha iyi olacağınız veya bir şekilde kendinize zarar verme düşünceleri				