

**Maladaptive perfectionism and basic psychological need frustration as mediators in a
relationship between fear of failure measures and generalised anxiety symptoms**



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Abstract

Research shows that maladaptive perfectionism and especially basic psychological need frustration can be forwarded as transdiagnostical processes in a variety of psychopathological features. Following this reasoning, the present cross-sectional study ($N = 92$) focused on basic need frustration and maladaptive perfectionism as mediators of the relationship between fear of failure and generalised anxiety. Results show (1) significant positive correlations between a variety of measures of fear of failure and generalised anxiety symptoms; and (2) maladaptive perfectionism as well as basic need frustration to mediate these relationships. Theoretical and clinical implications are discussed. Future studies should look into testing the mentioned variables on different populations as well as conducting longitudinal research.

Keywords: basic psychological need frustration, autonomy, competence, relatedness, maladaptive perfectionism, fear of failure, generalised anxiety

Introduction

High fear of failure has been connected to negative psychological and physical effects (e.g., performance anxiety, worry) on individuals frequently involved in achievement tasks (see Conroy, 2001 for a review). The present research combined multiple forms of generalised anxiety such as cognitive and somatic aspects as well as worry to find out how well those aspects relate to fear of failure.

To understand more about these processes and how they are connected, we chose Self-Determination Theory (SDT; Deci & Ryan, 2000) to test psychological need frustration as an intervening construct in the relationship between fear of failure and generalised anxiety. Furthermore, we also chose maladaptive perfectionism as the other mediator between fear of failure and anxiety. While there is no theoretical background on the mediation of maladaptive perfectionism and need frustration in the relationship between fear of failure and anxiety; there could be value in showing the integration between different frameworks as well as to give a background to future clinical work.

Clinically, there are mostly speculations and suggestions on interventions dealing with psychological need frustration (Campbell, Boone, Vansteenkiste, & Soenens, 2018); therefore, if mediation was to be found, it would be useful to look into interventions on anxiety, fear of failure as well as perfectionism. Finding the right intervention that increases opportunities for need satisfaction might divert individuals away from need-thwarting activities, or it could potentially prepare individuals with psychological resources to be resilient when dealing with anxious and stressful situations (Vansteenkiste & Ryan, 2013).

In the following paragraphs, we will explain the relationship between fear of failure and generalised anxiety. Afterwards, we will present psychological need frustration and maladaptive perfectionism as the possible mediators between fear of failure and generalised anxiety.

The relationship between fear of failure and generalised anxiety

Weinberg and Gould (2011, p. 78) define anxiety as “a negative emotional state in which feelings of nervousness, worry, and apprehension are associated with activation or arousal of the body.” Furthermore, Martens, Vealey, and Burton (1990) also propose dividing anxiety into two components; cognitive and somatic. Cognitive anxiety is considered the mental component of anxiety and is characterized by negative expectations about success or

negative self-evaluations, while somatic anxiety is considered to be an affective physiological response.

In a new, multidimensional model, fear of failure is defined as fear of shame and embarrassment, fear of devaluing one's self estimate, fear of having an uncertain future, fear of important others losing interest, and fear of upsetting important others (Conroy & Coatsworth, 2004). Most of the research on fear of failure and anxiety is concentrated on performance anxiety in the educational setting as well as worry along with parental and coach influence in the sport setting (*e.g.*, Conroy & Coatsworth, 2004). Such research proposes people fear the consequences of failure if they perceive them to be aversive (*e.g.*, Conroy, Willow, & Metzler 2002), and the anticipation of threatening outcomes elicits fear and anxiety (Lazarus, 2000).

Maladaptive perfectionism as a transdiagnostic process

Newer studies consider maladaptive perfectionism to be a multidimensional concept involving high standards of performance followed by overly critical evaluations of one's behaviour as well as over concern for mistakes and uncertainty in actions and beliefs (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Furthermore, some authors distinguish between different aspects of perfectionism, separating a more normal, adaptive part next to an unhealthier, maladaptive side (Rice, Ashby, & Slaney, 1998). Individual with adaptive perfectionism sets high standards for success while containing satisfaction for their performance. However, maladaptive perfectionism contains highly rigid expectations, compulsions to set high goals while there is an inability to take pleasure in one's own performance (Enns, Cox, & Clara, 2002).

While there is no previous research on the mediating effects on maladaptive perfectionism on fear of failure and generalised anxiety, there have been research on other combinations between the variables. For example, Santanello and Gardner (2007) found experiential avoidance may partially, mediate the relationship between maladaptive perfectionism and worry.

Maladaptive perfectionism can also be seen as a potential transdiagnostic vulnerability factor due to its ability to increase the risk for different types of psychopathology (Shafran & Mansell, 2001), one of them being anxiety (Mandel, Dunkley, & Moroz, 2015). Furthermore, Macedo, Marques and Pereira (2014) mentioned that maladaptive perfectionism, or in their

case, perfectionistic concerns, are related to anxiety over doing things incorrectly, failing to meet standards, and worrying about performance as well that such form of perfectionism correlates with neuroticism, low self-esteem, and anxiety.

Bulik et al. (2003) investigated the relationship between maladaptive perfectionism and diagnoses of anorexia and bulimia nervosa, major depression, alcohol abuse or dependence, generalized anxiety disorder, panic disorder, and any phobia. They found that higher Concern for Mistakes (CM) aspect of maladaptive perfectionism was connected with anorexia nervosa and bulimia nervosa but not with other psychiatric disorders. Furthermore, Doubts about Actions (DA) was associated with both eating and anxiety disorders. They suggest CM and DA could be the components associated with the tendency to interpret mistakes as failures; therefore, mostly strongly connected to eating disorders.

Studies on maladaptive perfectionism and its transdiagnostic outcomes, fear of failure and anxiety symptoms, have usually been researched separately. Some research also suggests maladaptive perfectionism could be only related to cognitive, and not to somatic factors of anxiety (Kawamura, Hunt, Frost, & DiBartolo, 2001; Stoeber & Joormann, 2001). One of the cognitive aspects of anxiety is pathological worry, defined as persons' perception of their worry as excessive, persistent, uncontrollable, and distressing and it is measured (Meyer, Miller, Metzger & Borkovec, 1990). Kawamura et al. (2001) found clinical aspects of maladaptive perfectionism, Concern over Mistakes and Doubts about Actions, explain the variability in pathological worry, even after controlling for depression.

However, while the connection between perfectionism and worry was mostly confirmed (Kawamura et al., 2001; Santanello & Gardner, 2007), studies on generalised anxiety and maladaptive perfectionism are scarce to find. Handley, Egan, Kane and Rees (2014) found that some dimensions of maladaptive perfectionism (Concern over Mistakes, Personal Standards, and Clinical Perfectionism) significantly predicted pathological worry among participants with GAD after controlling for gender and depression. The perfectionism dimension Doubts about Actions significantly predicted whether individuals from the full sample received a principal diagnosis of GAD.

Maladaptive perfectionists often show failure concerns (Hamachek, 1978). Fear of failure is also one of the fundamental psychopathological characteristics of maladaptive perfectionism and its principal motivational force (Macedo et al., 2014). There are rare findings on positive correlations between Frost's maladaptive perfectionism and fear of

failure (Frost, 1990; Riley & Shafran, 2005). For instance, Frost et al. (1990) found that there were significant positive associations between the fear of failure factor and all components of perfectionism except the organization factor of perfectionism.

Moreover, Riley and Shafran (2005) did a qualitative analysis on clinical perfectionism and its maintaining mechanisms and found that fear of failure was the primary motive for achievement (“It would just be a total loss of security if I fell from this standard ...”) in 93.3 % of the sample with the core psychopathology in clinical perfectionism. All in all, individuals scoring high on maladaptive perfectionism engage in harsh self-scrutiny and self-evaluation, easily interpret mistakes as failure (van der Kaap-Deeder et al., 2016), express doubts about their performance, and are highly concerned with others’ evaluation (Frost et al., 1990).

Empirical research showed generalised anxiety and fear of failure to be connected to maladaptive perfectionism (e.g., Santanello & Gardner, 2007). There is also a possibility of maladaptive perfectionism mediating the connection between fear of failure and anxiety. Maladaptive perfectionistic behaviour that sets and strives to accomplish highly set standards also strives on elimination of aversive stimuli such as anxiety related to the fear of failure. In the long term, perfectionists’ desire for unrealistic achievements would most likely intensify feelings and concerns about failure, leading to negative feelings such as anxiety (Hamachek, 1978; Burns, Dittmann, Nguyen, & Mitchelson, 2000).

Basic psychological needs as a transdiagnostic process

Basic psychological need frustration is also proposed to be the mediator of generalised anxiety and fear of failure. According to Self-Determination Theory (Ryan & Deci, 2000), well-being can be improved if one’s behavioural regulations satisfy one’s need for competence, relatedness, and autonomy (Ryan and Deci 2017). When the basic needs are actively blocked or thwarted, basic need frustration can happen and cause defensiveness, ill-being, and even psychopathology; therefore, making psychological need frustration a transdiagnostic factor (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Chen et al. 2015).

For instance, after controlling for need satisfaction, Bartholomew et al. (2011) found that there is a relation between the manifestation of ill-being in sport (i.e., burnout, depression, negative affect, symptomatology, and perturbed physiological functioning) is

more related to the presence of need frustration. Moreover, psychological needs are often conceptualized as an important experiential mediator between social contexts and a variety of outcomes (Sheldon & Gunz, 2009). Therefore, according to SDT and evidence that the frustration of these needs could induce ill-being and maladjustment (Bartholomew et al. 2011), we expect psychological need frustration to be positively associated with generalised anxiety symptoms.

As for fear of failure and need frustration; theoretically, there is a possibility competence frustration could also be related to fear of failure. Competence frustration involves feelings of doubt and failure concerning one's efficacy (Ryan, 1995), while fear of failure consists of fear of devaluing one's self estimate and fear of having an uncertain future (Conroy & Coatsworth, 2004). Furthermore, autonomy frustration involves feeling controlled through externally enforced or self-imposed, coercive pressures (Ryan, 1995), while fear of failure also positively relates to controlling reasons because individuals high in fear of failure tend to act on the basis of pressuring incentives such anticipated feelings of shame and guilt; therefore, also exhibiting controlling behaviour referenced in SDT theory (McGregor & Elliot, 2005).

While there the literature on fear of failure and basic needs is scarce, it also shows that there is a positive relationship between basic need frustration and fear of failure (Conroy & Coatsworth, 2007; Haghbin, McCaffrey & Pychyl, 2012). For example, Conroy and Coatsworth (2007) empirically confirmed that basic need frustration is responsible for the fear of failure of youth swimmers. Haghbin et al. (2012) found fear of failure and procrastination was moderated by level of competence, while autonomy mediated the relationship only in the high procrastinating group.

Moreover, there is also a connection between maladaptive perfectionism and need frustration. Shafran and Mansell (2001) suggest that in the self-perpetuating chain, maladaptive forms of perfectionism may elicit increasing need frustration. For example, when exposed to repeated need thwarting, individuals may adopt perfectionistic standards to prove their worth. Considering the transdiagnostic features on basic need frustration, its connection to maladaptive perfectionism as well as its connection to fear of failure and anxiety (e.g., Haghbin et al., 2012), we have decided to include it into the mediation analysis as the second mediator.

The present study

The present study wants to determine if psychological need frustration and maladaptive perfectionism mediate the relationship between fear of failure and generalised anxiety symptoms. Based on the findings of previous studies, four hypotheses were formed to respond to the question: 1) We expect positive relations between FF and elements of GAS, as we conceptualize them as comorbid factors. 2) These positive relations between FF and elements of GAS could be partially mediated by maladaptive perfectionism. 3) These positive relations could be fully mediated by basic need frustration.

Method

Participants

The sample consisted of 107 students. However, 15 participants were excluded for not completing the entire questionnaire; therefore, there were only 92 eligible participants. There were 71 female (77.2%) and 21 male participants (22.8%) with the mean age of 24 years ($SD = .42$, range 18-30 years) (*Appendix B, Table 1*).

Participants were recruited over Facebook and Whatsapp. Participants voluntarily completed online Qualtrics survey for research purposes. Firstly, the participants read the information sheet so they could inform themselves about the study and about what is required of them as well as to consent that they are willing to proceed. The participants were also informed that they could withdraw from the study at any moment. Lastly, the participants were thanked for their participation.

Measures

In this study, the following variables will be measured: fear of failure, maladaptive perfectionism, generalised anxiety and basic psychological need frustration.

Materials (*Appendix A*)

The Frost Multidimensional Perfectionism Scale (F-MPS; Frost et al., 1990) consisted of 13 positively worded items ($M = 32.83$, $SD = 9.28$, $\alpha = .89$). The subscales used in the study were “Concern over Mistakes” (CM; 8 items; e.g., “If I fail at work/school, I am a failure as a person.”; $M = 22.04$; $SD = 6.31$; $\alpha = .84$) and “Doubts about Actions” (DA: 4 items; e.g., “It takes me a long time to do something “right.”; $M = 10.78$, $SD = 3.91$, $\alpha = .84$). The answers were rated on a scale from 1 (*Not True at All*) to 5 (*Completely True*).

The Basic Psychological Frustration Scale, one of the two subscales of *The Basic Psychological Need Satisfaction and Frustration Scale* (BPNSFS; Chen et al., 2015), was used in the present study. The need frustration subscale consists of 12 positively-worded items (e.g., “Most of the things I do feel like “I have to”; $M = 28.64$, $SD = 9.38$, $\alpha = .91$). The items were rated on a scale from 1 (*Not True at All*) to 5 (*Completely True*).

Generalised Anxiety Measures

Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006) consists of 7 positively worded items (e.g., “Over the last 2 weeks, how often have you had trouble relaxing?”; $M = 15.07$, $SD = 5.52$, $\alpha = .90$). It measures the health status (the degree to which the patient has been bothered by feeling nervous, anxious or on edge, not being able to stop or control worrying, worrying too much about different things, etc.) over the past two weeks. The questionnaire is rated on a modified 4-item Likert scale from 1 (*Not at All Sure*) to 4 (*Nearly Every Day*).

Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990) measures the generality of worry over time and situations, the intensity/excessiveness of the experience and the uncontrollability of the process. The questionnaire consists of 16 items rated on a scale from 1 (*Not at All Typical*) to 5 (*Very Typical*). Some items were positively worded, e.g., “My worries overwhelm me” and some were negatively worded, e.g., ($M = 50.55$, $SD = 13.71$, $\alpha = .93$).

Beck's Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) is a self-reported questionnaire measuring physiological symptoms of the severity of anxiety in children and adults over the last week. The questionnaire consists of 21 positively worded items (e.g., “Indicate how much you have been feeling hot by that symptom during the past month”; $M = 39.01$, $SD = 11.58$, $\alpha = .91$). The items were rated on a modified 4-point Likert scale, from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*).

Fear of Failure Measures

The Performance Failure Appraisal Inventory (PFAI; Conroy, Willow, & Metzler, 2002) is a 25-item questionnaire that measures the strength of individuals' beliefs in five aversive consequences of failing; (a) fear of experiencing shame and embarrassment, (b) fear of devaluing one's self-esteem (c) fear of having an uncertain future, (d) fear of important others losing interest, and (e) fear of upsetting important others. The items were all positively worded (“When I am failing, my future seems uncertain”; $M = 59.09$, $SD = 22.61$, $\alpha = .90$). The items were all rated on a scale from 1 (*Do Not Believe At All*) to 4 (*Believe 100% of the Time*).

Fear of Failure. We used the 10-item Fear of Failure subscale from the *Success/Failure Questionnaire II* (SFQ II; Herman, 1990). The items were all positively worded (e.g., “When I start doing poorly on a task, I feel like giving up”; $M = 28.52$, $SD =$

7.74, $\alpha = .82$) and rated on a 5-point Likert scale and range from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Plan of Analysis

The present paper is a regression analysis study with generalised anxiety as the outcome variable. The following statistical analyses will be used to examine the relationship between the variables. Firstly, the Pearson's bivariate correlations will be used to check H1. Regarding H1 hypothesis, we expect positive correlations between different subscales measuring FF and generalised anxiety.

As for H2 and H3, the following hierarchical analyses will be used: (1) Fear of failure FF (2) Maladaptive perfectionism, (3) Basic need frustration. In all analyses, we most likely control for age and/or gender. Regarding H2, we expect the positive regression coefficient of FF to drop significantly when entering maladaptive perfectionism into the equation, to show partial or full mediation. Regarding H3, we expect the regression coefficient of fear of failure to drop even further when entering basic need frustration into the regression.

Results

Preliminary analyses

As shown in Table 1, Pearson's bivariate correlations consistently confirmed hypothesis 1. All correlations between different subscales measuring FF and generalised anxiety were strongly positive and statistically significant, ranging from .44 to .56, $p < .001$. Furthermore, all indicators of FF and generalised anxiety were consistently positively related to both maladaptive perfectionism (correlations ranging from .35 to .62, $p < .001$) and basic need frustration (correlations ranging from .49 to .69, $p < .001$)

Table 1

Bivariate Pearson correlations (r) between Maladaptive Perfectionism, Basic Need Frustration, Generalised Anxiety and Fear of Failure Measures

Measure	MP	NF	GAD-7	PSWQ	BAI	SFQ II
1. Maladaptive perfectionism (MP)	—					
2. Need frustration (NF)	.54**	—				
3. GAD-7	.62**	.69**	—			
4. PSWQ	.61**	.62**	.75**	—		
5. BAI	.35**	.49**	.61**	.59**	—	
6. SFQ II	.44**	.63**	.48**	.44**	.52**	—
7. PFAI	.60**	.54**	.46**	.56**	.45**	.67**

* $p < .05$; ** $p < .01$; *** $p < .001$ (2-tailed).

GAD-7: Generalised Anxiety Disorder-7, PSWQ: Penn State Worry Questionnaire, BAI: Beck's Anxiety Inventory, SFQ II: Success-Failure Questionnaire II, PFAI: Performance Failure Appraisal Inventory, MP: Maladaptive Perfectionism; NF: Need frustration

Preliminary analyses found a significant positive relationship between variables basic need frustration and age ($r = .22$, $p < .05$). Therefore, age was included as a control variable in the upcoming regression and mediation analyses. Furthermore, we found no significant differences between males and females on any of the studied variables.

Explorative analyses

The hierarchical analyses were performed to assess how much do the fear of failure, maladaptive perfectionism and need frustration predict levels of generalised anxiety after controlling for age.

Table 2

Hierarchical regression analyses predicting indicators of Generalised Anxiety Symptoms based on Fear of Failure measures, Maladaptive Perfectionism, Need Frustration

	Generalised anxiety symptoms (BAI, PSWQ & GAD-7)		
	1	2	3
Fear of failure (PFAI & SFQ II)	.60***	.40**	.22*
Maladaptive perfectionism		.35*	.24*
Need Frustration			.40**
R ²	.61***	.67***	.73***

*p<.05, **p<.01, ***p<.001

All analyses controlling for age

As shown in Table 2, hierarchical analysis were performed on fear of failure measures (PFAI and SFQ II) (step 1), maladaptive perfectionism (step 2) and need frustration (step 3) on three anxiety measures (BAI, PSWQ and GAD – 7).

Table 3

Hierarchical regression analyses predicting indicators of generalised anxiety symptoms based on Fear of Failure (PFAI), Maladaptive Perfectionism, Need Frustration

	Beck Anxiety Inventory (BAI)			Worry (PSWQ)			GAD-7		
	1	2	3	1	2	3	1	2	3
Fear of failure (PFAI)	.45***	.38**	.27	.56***	.30**	.17	.46***	.14	-.04
Maladaptive perfectionism		.11	.00		.43***	.32**		.54***	.37***
Need Frustration			.33*			.35**			.51***
R ²	.23***	.24***	.30***	.32***	.43***	.51***	.21***	.38***	.55***

*p<.05, **p<.01, ***p<.001

All analyses controlling for age

As shown in Tables 3 and 4, six hierarchical regressions were carried out; the first three measured the influences of fear of failure measured by PFAI (step 1) or SQF II (step 1), maladaptive perfectionism (step 2) and need frustration (step 3) on three anxiety measures (BAI, PSWQ and GAD - 7) .

Table 4

Hierarchical regression analyses predicting indicators of generalised anxiety symptoms based on Fear of Failure (SFQ II), Maladaptive Perfectionism, Need Frustration

	Beck Anxiety Inventory (BAI)			Worry (PSWQ)			GAD-7		
	1	2	3	1	2	3	1	2	3
Fear of failure (SFQ II)	.51***	.45***	.34**	.44***	.22*	.02	.47***	.25*	.01
Maladaptive perfectionism	—	.15	.08	—	.52***	.40***	—	.51***	.35***
Need frustration	—	—	.22	—	—	.40***	—	—	.50***
R ²	.29***	.30***	.33***	.19***	.41***	.49***	.23***	.44***	.56***

*p<.05, **p<.01, ***p<.001

All analyses controlling for age

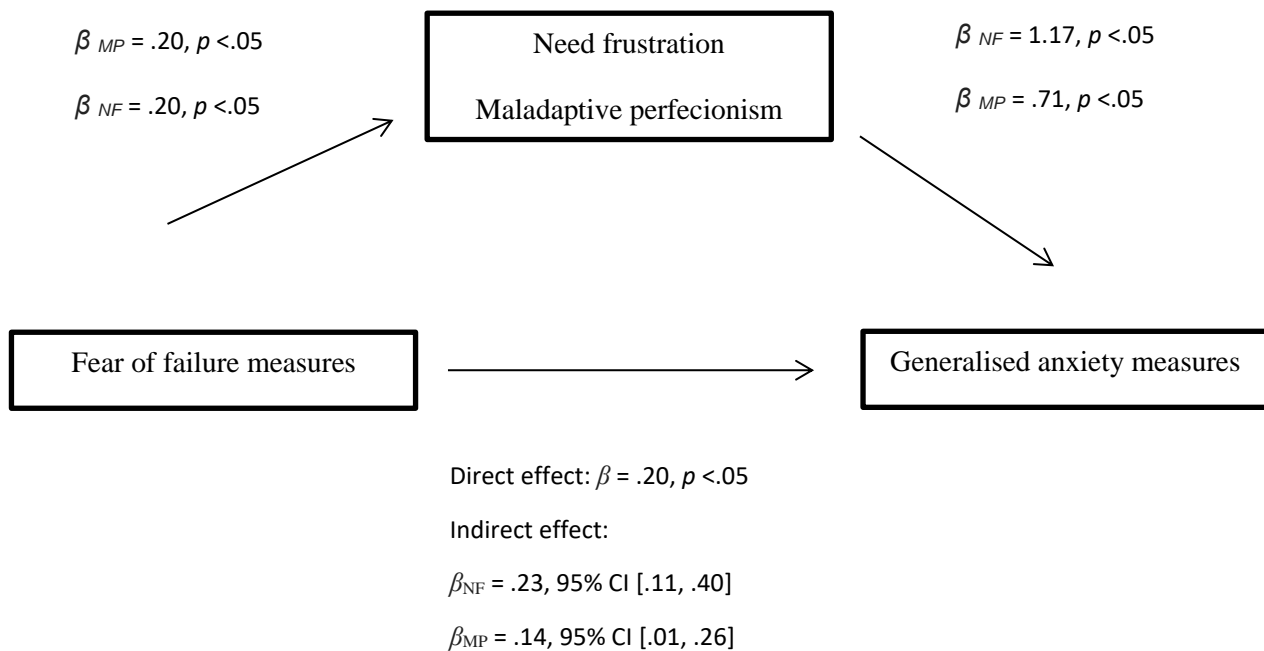
The mediation of the variables maladaptive perfectionism and basic need frustration in the relationship between fear of failure and generalised anxiety measures was checked using the PROCESS programme developed by Andrew F. Hayes. The model found that there was a partial mediation effect of fear of failure measures on generalised anxiety measures through the measure of need frustration,.

The correlated change between both symptoms was still significant, albeit reduced compared with the previous model, $\beta = .23$, 95%, BCa CI [.08, .32]. The correlated change between need frustration and both fear of failure and generalised anxiety symptoms was still significant and reduced, $\beta = .23$, 95%, BCa CI [.11, .40], compared to the previous model in Table 2.

Maladaptive perfectionism was shown to be a full mediator between both maladaptive perfectionism and other two variables (FF, GAS), $\beta = .14$, 95%, BCa CI [.01, .26]. The change was also significant and even more reduced ($\beta = .14 < \beta = .23$). In addition to the transdiagnostic role of basic psychological need frustration, these findings show that maladaptive perfectionism is a transdiagnostic mechanism that helps to explain why changes in fear of failure happen alongside changes in generalised anxiety symptoms (see Figure 1).

Figure 1

Model of the mediating role of Maladaptive Perfectionism and Need Frustration on the relationship between Fear of Failure measures and Generalised Anxiety Symptoms



The same analyses were done for the effects of the different subscales measuring FF (PFAI, SFQ II) on different subscales measuring GAS (PSWQ, GAD-7, BAI, see Table 5). Entering the equation, both need frustration and maladaptive perfectionism mediated the effect of the FF measures on all GAS measures except for the BAI. As in the previous analysis (see Figure 1), maladaptive perfectionism is the full, while need frustration is the partial mediator between all measures of fear of failure and all measures of GAS aside from BAI (see Table 5).

Table 5

Bootstrap Analyses with Maladaptive Perfectionism (MP) and Need Frustration (NF) as a Mediator

Independent variable	Dependent variable	Mediator	Direct effect (β)	Indirect effect (β)	95%CI (lower and upper)
PFAI	PSWQ	MP	.11	.12	.04, .21
		NF		.12	.15, .20
PFAI	GAD-7	MP	- .01	.05	.02, .09
		NF		.07	.04, .10
PFAI	BAI	MP	.13*	.005	- .08, .07

		NF		.10	.12, .53
SFQ II	PSWQ	MP	.04	.30	.23, .71
		NF		.44	.36, .95
SFQ II	GAD-7	MP	.01	.11	.04, .19
		NF		.22	.14, .33
SFQ II	BAI	MP	.51***	.05	- .11, .24
		NF		.22	- .01, .47

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; FF = fear of failure, GAS = generalised anxiety symptoms, PFAI = FF subscale, SFQ II = FF subscale, PSWQ = GAS subscale worry, GAD-7 = GAS subscale, BAI = GAS subscale, NF = Need Frustration.

Discussion

Already mentioned research shows fear of failure causes anxious symptoms; individuals fear aversive consequences of failure and the wait and fear of the threatening outcome can cause anxiety (*e.g.*, Conroy & Coatsworth, 2004). The present research confirmed the previous research and the first hypothesis based on the research; fear of failure and generalised anxiety measures were significantly and strongly connected while controlling for age

The present study also sought to examine maladaptive perfectionism as a partial mediator and need frustration as a full mediator between generalised anxiety symptoms and fear of failure. Contrary to our other two hypothesis, maladaptive perfectionism has shown to be a full mediator between fear of failure and generalised anxiety measures, while basic need frustration has shown to only partially mediate the relationship between the two variables. Campbell et al. (2016) examined the connection between eating pathology and depression and found the opposite results; maladaptive perfectionism was found to be a partial and need frustration as the full mediator between the two variables. The possible explanations for different results will be presented in the following paragraphs.

Firstly, Shafran and Mansell (2001) found maladaptive perfectionism also has influence on need frustration by increasing it. However, there is a possibility of the influence to be the other way around. Research shows perfectionistic need to prove their worth and strive for the impossible usually leads to strong negative self-evaluation to their unsatisfactory performance, creating a rigidity that may lead to ill-health (*e.g.*, Shafran and Mansell, 2001); therefore, there is a possibility individuals high in maladaptive perfectionism adopt rigid standards may find their needs thwarting.

Secondly, the present research is also the first research using need frustration and maladaptive perfectionism alongside the variable fear of failure; therefore, the results are consistent with the theory and research on the effect of maladaptive perfectionism on fear of failure as well as anxiety. Theoretically, maladaptive perfectionism emphasizes fear of failure as one of its main components; maladaptive perfectionists are prone to unrealistic expectations which then intensify feelings and fears about failure, leading to anxiety (*e.g.*, Burns, et al., 2000). Clinical research also supports the theory (Frost, 1990; *e.g.*, van der Kaap-Deeder et al., (2016), found that fear of failure was the primary motive for achievement in 93.3 % of the sample with the core psychopathology in clinical perfectionism.

Moreover, the present research concluded that mediation analyses on separate factors of fear of failure and generalized anxiety showed both need frustration and maladaptive perfectionism mediated the effect of the FF measures on all anxiety measures except for the BAI. BAI consists of both somatic and cognitive anxiety symptoms, There is a possibility somatic aspect of anxiety both maladaptive perfectionism and need frustration. It is consistent with previous research that found perfectionism is related to the cognitive aspects of depression, but not to somatic and affective complaints (Kawamura et al., 2001; Minarek & Ahrens, 1996).

Kawamura et al. (2001) also found perfectionism has an effect of anxiety related to general worry and trait anxiety, but not to the fears of harm associated with PTSD and OCD. They also claim somatic aspects of anxiety and other disorders are not related to perfectionism. It is also consistent with the results of Minarek and Ahrens (1996) found Concern Over Mistakes, Doubts About Actions, and Personal Standards correlated with scores on the Beck Anxiety Inventory (BAI), but not when controlling for depression. The explanation offered could be that cognitive aspects of anxiety are not adequately captured with BAI as well as that, differences in the features of anxiety measured in these studies may explain the discrepant findings.

Limitations and further research

There have been some limitations of the present research. The sample of the present research consisted of the convenience sample, mostly master student population; therefore, not a representative of a general population. The convenience sample usually has low external validity (Neuman, 2014) and further research should examine the generalisability of the research to other samples such as clinical as well as other age groups. Furthermore, the study was an internet-based survey. There is a fewer chance of drop out and more honest answers when using mail and not an internet-based survey. Furthermore, not everyone has access to internet and has a Facebook account, making the sample rather limited (Fricker & Schonlau, 2002).

There is also a possibility fear of failure was not considered a full mediator due to psychological needs variables being researched together. Due to similarities between the definitions of autonomy and competence to fear of failure as well as rare research findings of moderation of competence and mediation of autonomy on fear of failure and procrastination

(Haghbin et al. (2012), it would be interesting to test the mediation of psychological needs separately to determine how well they mediate the relationship.

Clinical implications

Campbell et al. (2018) suggested using integral approach to deal with not only basic need frustration but also have more focus on maladaptive perfectionism. They mentioned tackling failure as a part of competence frustration discussion; therefore, fear of failure could also be incorporated into the therapy. They also proposed failure should be discussed as a positive aspects and part of a learning process. Furthermore, to improve autonomy, there should be an examination and discussion of pressure and things a person really wants. To improve relatedness satisfaction, positive social interactions and perfectionistic tendencies should be discussed and encouraged.

Moreover, since maladaptive perfectionism seems to fully mediate the relationship between fear of failure and generalised anxiety symptoms, mental health assessment should include questions about maladaptive perfectionism when being presented with individuals presenting with GAD symptomatology. Then, the clinician could incorporate perfectionism in a client's formulation if it appears to be maintaining the client's symptoms; therefore, targeting maladaptive perfectionism could decrease symptoms of generalised anxiety (Egan et al., 2014).

Conclusion

The present research found positive strong correlations between fear of failure and generalised anxiety measures. Previous research also found maladaptive perfectionism could be only related to cognitive, and not to somatic factors of anxiety (Kawamura et al., 2001; Stoeber & Joormann, 2001). Moreover, the present research found maladaptive perfectionism was a better mediator than need frustration. The possible reason could lie in similarities between fear of failure and maladaptive perfectionism variable, confirmed by both theory and research. Aside from limitations, the present study's findings on maladaptive perfectionism and its connection to generalised anxiety symptoms as well as fear of failure and maladaptive perfectionism can lead to incorporating maladaptive perfectionism (and in extension fear of failure) when assessing for anxiety as well as to help overcome need frustration.

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Appendix A

Questionnaire

Dear participants,

Thank you very much for considering participation in this study!

As part of my master's thesis in Clinical Psychology at the University of Utrecht, I am examining general healthy functioning, perfectionism, fear of failure and generalized anxiety. You are invited to answer questionnaires regarding four topics. Filling in the questionnaires takes about 10-15 minutes.

Your data will be anonymized and kept strictly confidential. Participation is voluntary and can be terminated at any time without giving reasons. If you have any questions regarding the study, you can contact the researcher Kate Piacun (k.piacun@students.uu.nl) and/or Bart Neyrinck (b.a.m.neyrinck@uu.nl), docent and supervisor of this research.

I hereby confirm that I have been sufficiently informed about the nature, method and purpose of this study. I know that the data and results of this investigation will be treated anonymously and confidentially. I voluntarily participate in this study. I reserve the right to terminate the participation at any time without giving reasons.

Gender

☐ Male

☐ Female

How old are you?

Please answer the following questions to the best of your ability.

	Not true at all	Rather not true	Sometimes true/ Sometimes not true	Rather true	Completely true
If I fail at work/school, I am a failure as a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I should be upset if I make a mistake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone does a task at work/school better than I, then I feel like I failed the whole task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I fail partly, it is as bad as being a complete failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hate being less than the best at things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People will probably think less of me if I make a mistake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I do not as well as other people, it means I am an inferior human being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I do not do well all the time, people will not respect me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The fewer mistakes I make, the more people will like me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I do something very carefully, I often feel that it is not quite right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually have doubts about the simple everyday things I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to get behind in my work because I repeat things over and over.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It takes me a long time to do something "right."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions to the best of your ability.

	Not true at all	Rather not true	Sometimes true/Sometimes not true	Rather true	Completely true
Most of the things I do feel like "I have to".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel forced to do many things I wouldn't choose to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel pressured to do too many things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My daily activities feel like a chain of obligations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel excluded from the group I want to belong to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people who are important to me are cold and distant towards me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the impression that people I spend time with dislike me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel the relationships I have are just superficial.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have serious doubts about whether I can do things well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disappointed with many of my performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel insecure about my abilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like a failure because of the mistakes I make.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions to the best of your ability. Please rate each of the following statements on a scale of 1 ("not at all typical of me") to 5 ("very typical of me").

	1 (Not at all typical for me)	2	3	4	5 (Very typical of me)
If I do not have enough time to do everything, I do not worry about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My worries overwhelm me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not tend to worry about things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many situations make me worry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I should not worry about things, but I just cannot help it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am under pressure I worry a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always worrying about something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it easy to dismiss worrisome thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As soon as I finish one task, I start to worry about everything else I have to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never worry about anything	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When there is nothing more I can do about a concern, I do not worry about it anymore	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been a worrier all my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I notice that I have been worrying about things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Once I start worrying, I cannot stop.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry all the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry about projects until they are all done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions to the best of your ability.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
When I start doing poorly on a task, I feel like giving up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If given a choice, I have a tendency to select a relatively easy task rather than risk failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I fail at a task, I am even more certain that I lack the ability to perform the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I fail, I often ask myself why I failed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes I think it is better not to have tried at all, than to have tried and failed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes put forth only a small amount of effort toward accomplishing an important task, even though I know success is possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am interrupted in an important task, I find that I easily forget about the project I was working on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I experience failure, I expect to receive punishment from someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually find that I am well prepared for success on a task that I value, but I do not perform that task well under the pressure of the moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually rely heavily upon feedback from others when I attempt to determine if a task is easy or hard.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions to the best of your ability. Indicate how much you have been bothered by that symptom during the past month, including today.

	Not at all	Mildly, but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling hot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wobbliness in legs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fear of worst happening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dizzy or lightheaded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heart pounding / racing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsteady	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Terrified or afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling of choking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands trembling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shaky / unsteady	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fear of losing control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty in breathing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fear of dying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indigestion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faint / lightheaded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Face flushed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot / cold sweats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions to your best ability.

	Do not believe at all	Believe 25% of the time	Believe 50% of the time	Believe 75% of the time	Believe 100% of the time
When I am failing, it is often because I am not smart enough to perform successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, my future seems uncertain.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, it upsets important others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I blame my lack of talent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I believe that my future plans will change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I expect to be criticized by important others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I am afraid that I might not have enough talent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, it upsets my "plan" for the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I lose the trust of people who are important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, I am less valuable than when I succeed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, people are less interested in me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I am not worried about it affecting my future plans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, people seem to want to help me less.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, important others are not happy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, I get down on myself easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, I get down on myself easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I hate the fact that I am not in control of the outcome.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, people tend to leave me alone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, it is embarrassing if others are there to see it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, important others are disappointed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I believe that everybody knows I am failing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, some people are not interested in me anymore.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I believe that my doubters feel that they were right about me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am not succeeding, my value decreases for some people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I worry about what others think about me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am failing, I worry that others may think I am not trying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It's done! That's the end of the survey.

Thank you very much for your participation! You can close the window now.

As stated earlier, if you have any questions regarding the study, you can contact the researcher Kate Piacun (k.piacun@students.uu.nl) and/or Bart Neyrinck (b.a.m.neyrinck@uu.nl), docent and supervisor of this research.

Appendix B

Tables and Figures

Table 1

Descriptive Statistics for Age and Gender Variables

		<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Age		92	18	30	24	3.36
Gender	Male	21	18	30	24.24	3.22
	Female	71	18	30	23.93	3.24