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ARAŞTIRMA

Açık Erişim

Thwarted Needs and Psychological Inflexibility Predicting Psychological Distress in University Students

Üniversite Öğrencilerinde Psikolojik Stresin Yordayıcıları Olarak Engellenmiş İhtiyaçlar ve Psikolojik Katılık

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ABSTRACT

Self-determination theory proposes that thwarted autonomy, competence, and relatedness are associated with an inflexible style of coping and leads to mental health concerns. The present research aims to examine psychological inflexibility (PI) – a construct of Acceptance and Commitment Therapy – as a mediator in the relationship between the thwarted needs and psychological distress in college students. Self-report instruments in a cross-sectional design were utilized to collect data from a sample of Turkish college students (N= 223, Mage= 21.68; SDage = 4.31) during the lock-down in Turkey. The present research utilized structural equation modelling (SEM) in testing the mediating role of PI in the relationship between thwarted needs and psychological distress (anxiety and depression symptoms). Thwarted autonomy, competence and relatedness had medium correlation with psychological distress. The SEM results showed that PI mediated the relationship of thwarted competence and relatedness with psychological distress while PI did not mediate the relationship between thwarted autonomy and distress. PI can be used to mitigate the negative influences of thwarted needs on psychological distress. Potential cultural differences in the relationship of thwarted needs with psychological distress were discussed.

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Keywords

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ÖZET

Öz-belirleme Kuramı engellenmiş otonomi, yeterlilik ve ilişkisellik ihtiyaçlarını katı bir başetme tarzıyla ilişkilendirmiş ve bu ihtiyaçların akıl ve ruh sağlığı sorunlarına yol açtığını önermektedir. Bu çalışma engellenmiş ihtiyaçlar ve psikolojik stres arasındaki ilişkiyi incelemeyi ve psikolojik katılığın (PK) (Kabul ve Kararlılık Terapisi'nin bir yapısı) engellenmiş ihtiyaçlar ve psikolojik stres arasındaki aracı rolünü incelemeyi amaçlamaktadır. Kesitsel desen içinde ulaşılabilir örneklem yöntemi ile Türk üniversite öğrencilerinden anket yöntemi ile toplanmıştır (N= 223, M= 21.68; SD = 4.31). Yapısal eşitlik modeli (YEM) kullanılarak engellenmiş temel ihtiyaçlar ve psikolojik stres arasındaki PK'nın aracı rolü test edilmiştir. Korelasyon değerleri incelendiğinde engellenmiş otonomi, yeterlilik ve ilişkisellik ihtiyaçları psikolojik stres ile ilişkili olduğu bulunmuştur. YEM analiz sonuçları PK'nın engellenmiş yeterlilik ve ilişkisellik ihtiyacının psikolojik stres ile ilişkisinde aracı olduğu ama engellenmiş ihtiyacın psikolojik stres ile ilişkisinde ise aracı olmadığı bulunmuştur. PK'ya yönelik müdahaleler engellenmiş ihtiyaçların psikolojik stres üzerindeki olumsuz etkisini azaltmak için kullanılabilir. Sonuçlar ile ilgili potansiyel kültürel etkenler tartışılmıştır.

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Ethical Statement: IRB approval of the Social and Human Sciences Research and Publication Ethics Committee at the university.

INTRODUCTION

Almost half of university students report overwhelming anxiety (65.7% for any time within the last 12 months) and depression (45.1% any time within the last 12 months) during university years (American College Health Association, 2019). Existing studies identified several factors that may intensify university students' mental health concerns (Arnett, 2015; Auerbach et al., 2018). University students as emerging adults go through essential transitions like gaining autonomy, forming new relationships and achieving competency in multiple domains of their life (Arnett, 2015). The risk factors brought by the pandemic intensified these transitional challenges (Clark & Watson, 2019; Jao et al., 2018): one third of students reported moderate to severe depression and anxiety while 88% of them reported increase in their stress due to the pandemic oriented difficulties like financial problems (Lee et al., 2021). These findings show that university students are vulnerable to mental health problems like anxiety and depression (Jao et al., 2018). Interestingly, a longitudinal study showed that university students with preexisting mental health concerns reported less of an increase in psychological symptoms compared to those without preexisting mental health concerns (Hamza et al., 2021). This seeming benefit may not reside in the pandemic or mental health originated difficulties per se but may reside in university students' coping repertoire or predispositions in response to a problem (Crum et al., 2017; Lischetzke et al., 2021).

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017) and psychological inflexibility (PI) model of Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, et al., 2004) may explain university students' predispositions in coping with stress. For example, SDT points to an optimal level of challenge (Deci & Ryan, 1985). When the problems and restrictions in the environment are beyond this optimal level, individuals become rigid and passive in meeting their basic motivational needs (i.e., autonomy, competence and relatedness) (Roth et al., 2019; Ryan et al., 2016). This rigidity may predict inflexibility in staying in the present moment and engaging in value-guided actions. Therefore, the frustration of needs (e.g., the need to feel competent) (Chen et al., 2015; Ryan et al., 2016) and the diminished ability to act in accordance with values (Hayes, Strosahl, et al., 2004) may predict maladaptive behaviors, not merely the aversive environment. The present study thus explores whether thwarted needs predict psychological distress, and PI mediates the relationship of thwarted needs with psychological distress.

Thwarted Needs

SDT (Deci & Ryan, 1985; Ryan & Deci, 2017) is an evolving theory of human motivation and growth, including six sub-theories, and it proposes that human organisms have an innate drive inclined toward a unified sense of self. This sense of a unified self-structure partly depends on the satisfaction of the basic needs (i.e., autonomy, competence, relatedness). A nurturing/supportive environment enhances individuals' sense of competence, relatedness, and autonomy through an ongoing process of elaborating their self-structure or inner desires/values. Indeed, a supportive environment might be helpful for goal progress and task-oriented coping while an unsupportive environment might lead to disengagement from the task and autonomous goal motivation in university students (Gaudreau et al., 2012). This innate drive toward self-determination seeks optimal challenges, which would be supportive for creativity, intrinsic motivation and resourcefulness (Ryan & Deci, 2017) and even for the selection of and pursuing leisure activities (Iwasaki, 2003). Due to the difference between the need frustration and satisfaction in behavior, some researchers point to the need satisfaction and frustration as the "...darker and brighter sides of human functioning" (Ryan & Deci, 2000b, p. 325) The theory thus makes a distinction in need frustration

on mental health (e.g., Rouse et al., 2020). That is, need frustration may lead to passive/avoidant self and mental health concerns (Ryan & Deci, 2017): satisfaction of basic needs promise to facilitate one's psychological flexibility. Conversely, frustration of these basic needs may facilitate psychological inflexibility, thereby leading to mental health concerns (Rouse et al., 2020).

The present study, therefore, is particularly interested in the Basic Psychological Needs Theory (BPNT) (Ryan & Deci, 2017) – a sub theory of SDT. BPNT identifies three universal needs. First, the need for autonomy motivates people to engage willingly in activities with awareness and congruence. Second, the need for competence motivates people to exercise their strength in pursuing their goal-directed behaviors and to attain effective outcomes. Third, the need for relatedness motivates people to connect with others and feel respected and cared for in interpersonal relationships. Self-determination through these needs “is an energizing state that, if satisfied, conduces toward health and well-being but, if not satisfied, contributes to pathology and ill-being” (Ryan & Deci, 2000a, p. 74). Thwarted basic needs may actually lead to forming a personal style of rigid self-protective behaviors, strict regulatory mechanisms, and an avoidant motivational system. (Deci & Ryan, 1985; Ryan et al., 2016). Failure to meet basic needs eventually contributes to an increase in maladaptive behaviors and predict depressive and other psychological symptoms (Bartholomew et al., 2011; Campbell et al., 2018; Chen et al., 2015; Rouse et al., 2020; Vansteenkiste & Ryan, 2013). Vansteenkiste and Ryan (2013) proposed that “... need frustration evokes ill-being and increased vulnerabilities for defensiveness and pathology” (Vansteenkiste & Ryan, 2013, p. 2). Within the context of the present study, the need frustration may have an emotional cost of mental health concerns (Campbell et al., 2018) through compensatory attempts to overly control one's behavior and emotions as well as rigid behavioral patterns of inflexibility (Campbell et al., 2018; Chen et al., 2015; Ryan et al., 2016; Vansteenkiste & Ryan, 2013). In the present study, this rigid behavioral pattern is studied within the construct of psychological inflexibility.

Psychological Inflexibility

Psychological flexibility (PF) is a seminal concept to Acceptance and Commitment Therapy (Bond et al., 2006; Hayes, Strosahl, et al., 2004; Hayes & Gifford, 1997). PF consists of six behavioral response processes. These six behavioral responses – “hex-a-flex” model – includes acceptance, defusion, flexible attention to the present moment, self-as-context, valued living and committed action (Hayes et al., 2006). Even though challenging life experiences provoke distress, individuals with high PF endure stressful situations openly and act consistent to their valued goals and present-moment experiences (Bond et al., 2006; Doorley et al., 2020). PF is a dynamic process built in language/thinking stream (i.e., Relational Framework Theory) that helps individuals deal with fluctuating daily challenges: This framework of language facilitates mental resources, perspectives and balance between desires and situational demands (Hayes, Follette, et al., 2004; Kashdan & Rottenberg, 2010). Researchers caution that low PF does not infer the presence of psychological inflexibility (PI) (Cherry et al., 2021): PI and PF are two separate constructs. PI and PF are built in the human language and cognitive patterns like schemas and the actual events activate a network of thinking (Hayes et al., 1996). Within a sample of university students, Kashdan and colleagues (2006) showed that PI mediated the relationship of emotion regulation strategies and predicted diminished daily positive experiences/events and increased negative affective experiences. For individuals with high PI, the symbol of the distressing event is likely to spread the associated negative networks of memories and emotions (Hayes et al., 1996) and associate the risk factors with maladaptive behaviors (Kingston et al., 2010). Therefore, it is important how a given context activates the thinking

pattern, meaning that some people are prone to become rigid and inflexible in responding to the daily problems. In the present research, it was hypothesized that university students with need frustration would be likely to engage in psychological inflexibility and report higher level of psychological distress.

The Present Research: Psychological Inflexibility as the Mediator of Thwarted Needs

PI is a behavioral response pattern in perceiving the problems in the environment (Ciarrochi et al., 2010) and a process of appraising the situation (Hayes et al., 1996). Individuals with PI thus tend to be less adaptive and more rigid in responding to emotional experiences (Masuda et al., 2010) due to rigidity in using their mental resources, taking perspectives in balance between desires and situational demands (Hayes, Follette, et al., 2004; Kashdan & Rottenberg, 2010). That is, individuals who are high on PI tend to disengage from context specific behaviors, which in turn creates a gap between appraised and actual meaning of the situation (Hayes et al., 2006). Chawla and Ostafin (2007) suggested examining the core processes in PI as a factor in the etiology of mental health disorders. The present research hypothesizes that one of the underlying dynamics in PI might be the construct of need frustration as described in SDT. Deci and Ryan (1985) defines rigidity and avoidance as the central characteristics of thwarted needs. That is, people with underachieved self-determination are not able to endure tension and pressure in order to preserve self-determined, intrinsically motivated behaviors. Indeed, the autonomy and capacity in managing distressful situations were found to be associated with the experience of distress like anxiety, showing that compromised autonomy may serve as a vulnerability factor to stressors (Kunst et al., 2019). Need frustration may fuel rigidity, passivity and inflexibility (Deci & Ryan, 1985).

SDT explains the motivational dynamics in seeking autonomy, competence, and relatedness in their environment while ACT explains the dynamic structure of how an individual responds to their environment. SDT views human growth within a dialectic perspective. This dialectic perspective "...concerns the ongoing struggle of the synthetic function of self to assimilate and accommodate to a world of both inner drives and urges, and outer demands and seductions" (Ryan et al., 2019, p. 119). The failure in navigating this struggle results in rigidity, deterioration in one's perceived competence and intrinsic motivation (Deci & Ryan, 1985), hypothetically higher tendency toward PI. Consistent with SDT's premises (Ryan & Deci, 2017), individuals with high PI would explain distressing experiences with negative judgmental thoughts and feelings while trying to compromise painful present moment experiences. Individuals' internal dialogues and judgmental interpretation of the situation would control them more than by the actual restrictions in the environment. Kashdan and Rottenberg (2010) thus note that the need frustration or need satisfaction is static, meaning that it does not change day to day. They discuss that those "static approaches fail to capture the dynamic, fluctuating, and contextually-specific behaviors that people deploy when navigating the challenges of daily life" (Kashdan & Rottenberg, 2010, p. 866). However, PI composes the dynamic nature of coping with stressful situations. Therefore, need frustration includes a motivational system internalized throughout years of interaction with the environment (Ryan & Deci, 2017) and PI is situation specific and acts more like a mediator of the internalized motivational system.

Drawing from the above-mentioned research findings, the present research hypothesizes that university students with frustrated needs are likely to suppress their thoughts and avoid experiencing the present moment, which in turn predicts high levels of psychological inflexibility, which in turn predict anxiety and depression. Figure 1 presents the hypothesized structural equation model (SEM).

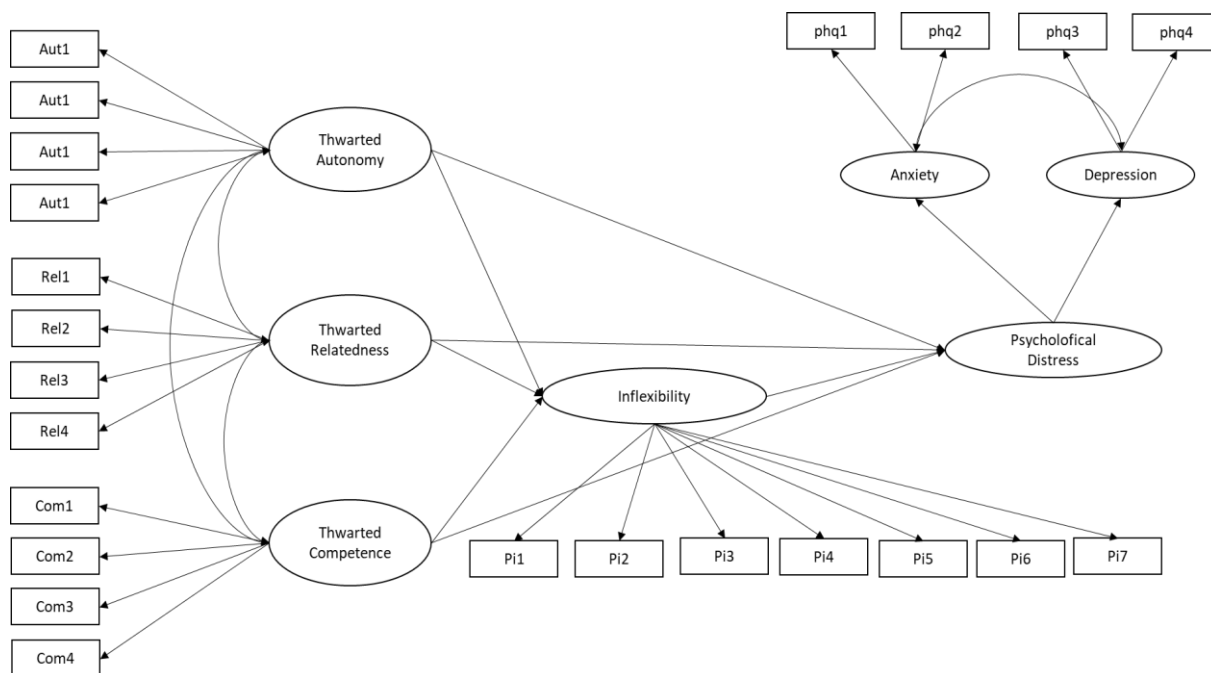


Figure 1. Structural equation modelling of predicting psychological distress from need frustration through psychological inflexibility

METHOD

In order to estimate the required sample size, a power analysis in R statistical program (“pwr.r.test” function) was conducted. Expecting a medium effect size (.30) in correlational models according to Cohen’s (1992) criteria, a significance level of .05, and a power at .80, calculations suggested a sample size of 85 participants at least. Another estimation of sample size on an online tool (Soper, 2021) with 23 indicators, five latent variables, a power at .80, significance level of .05 and expected effect size of .30 suggested at least 150 observations for structural equation models. This study with the current sample size of 223 exceeded the suggested sample sizes. Table 1 presents the correlation coefficients and descriptive findings.

Participants for this study were recruited from a Turkish public university and 223 Turkish students participated in this study. Out of 223 participants, 165 of them were female and 58 were male (Mage= 21.68; SDage = 4.31). For socio-economic status (SES), 29 of them classified themselves as low income, 181 as middle income and 13 as high income. In terms of year at university, 221 were undergraduate and two were graduate students, and out of 221 undergraduate students, 66 were freshman, 67 were sophomore, 52 were junior, 35 of them were senior and three of them did not report their year at the university.

Ethical Statements

The study was approved by the Istanbul Medeniyet University Social and Human Sciences Research and Publication Ethics Committee at June 5, 2020. In addition, consent forms were obtained from all participants included in the study.

Ethics Committee Name: Istanbul Medeniyet University Social and Human Sciences Research and Publication Ethics Committee

Approval Date: 05.06.2020

Measures

The present research included three measures along with a demographic form. This section provides the details of the measures.

Basic Psychological Needs Satisfaction and Frustration Scale. Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015) includes 24 items rated on a 5-point Likert type scale, ranging from 1, “not true at all” to 5, “completely true.” The BPNSFS includes six subscales: three subscales include autonomy, competence and relatedness satisfaction and three other subscales include frustration of these needs. The original development study reported internal consistency of the scale as ranging from 0.64 to 0.88 (Chen et al., 2015). Selvi and Bozo (2020) translated the BPNSFS into Turkish and reported good psychometric properties. Because we were interested in frustrated needs, we used 12 items assessing one’s report of autonomy (e.g., “I feel forced to do many things I wouldn’t choose to do”), competence (e.g., “I feel like a failure because of the mistakes I make”) and relatedness (e.g., “I feel the relationships I have are just superficial”) needs frustration. In the present study, Cronbach’s alpha coefficients for the scales were .87, .90 and .89, respectively. Higher scores indicate higher thwarted needs.

Acceptance and Action Questionnaire-II. Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) includes seven items (e.g., “I worry about not being able to control my worries and feelings.”) rated on a 7-point Likert-type scale, ranging from 1, “never true” to 7, “always true.” The higher scores on the scale represent higher psychological inflexibility. The original study reported good psychometric properties for a single factor version of the AAQ-II and internal consistency was 0.84 (Bond et al., 2011). Yavuz and colleagues (2016) translated the instrument into Turkish and reported good psychometric properties and internal consistency as 0.84. The present study revealed an internal consistency of 0.88.

Patient Health Questionnaire-4. Patient Health Questionnaire-4 (PHQ-4; Kroenke et al., 2009) is a screening measure of depression (e.g., “Over the last 2 weeks, how often have you been bothered by little interest or pleasure in doing things?”) and anxiety (e.g., “Over the last 2 weeks, how often have you been bothered by feeling nervous, anxious or on edge?”) symptoms. The scale consists of four items rated on a scale of 0, “not at all” to 3, “nearly every day.” The PHQ-4 is a brief, valid and reliable tool to assess anxiety and depressive symptoms (Kroenke et al., 2009). Demirci and Ekşi (2018) translated the measure into Turkish and reported valid and reliable indicators. Internal consistency in the present study was 0.85. The present study utilizes the PHQ-4 to assess one’s psychological distress as a composite tool. Higher scores indicate higher psychological distress.

Procedures and Data Analysis Plan

The informed consent and invitation for the present research were delivered to the students along with the announcement. The author has not intervened in the recruitment process of the participants. Participants filled the questionnaires voluntarily and individually through Google Forms, and they did not receive an incentive for their participation. The Google Form did not keep record of the participants’ identifying information as the potential participants were informed.

Following data screening, assumptions for linear models and SEM (e.g., outliers, multicollinearity, multivariate normality) were tested and no gross violations of the assumptions were observed. There was no missing data. After the data screening completed, the SEM presented in Figure 1 was analyzed in R using the Lavaan package. Structural equation model (SEM) represents a series of regression analysis and examines the hypothesized interrelated relationships among the variables simultaneously (Hair et al.,

2019). A two-step model testing was used: Measurement model was tested first and then the structural model was tested (Kline, 2016). The measurement model includes the assessment of latent variables by observed variables and the structural model defines the hypothesized relationships (paths) between the latent variables (Hair et al., 2019). The structural model in the present study includes a test of the relationships among thwarted needs of autonomy, competence and relatedness, psychological inflexibility, and psychological distress. To test the model fit for measurement and structural models, the commonly used criteria in the field was followed (Hu & Bentler, 1999; Kline, 2016). The indexes of chi-square test ($\chi^2/p > 0.05$ and $\chi^2/df < 3$), root mean square error of approximation (RMSEA < .10), the standardized root mean square residual (SRMR < .05), the comparative fit index (CFI > .90) and the Tucker-Lewis index (TLI > .90) were used in assessing the model fit.

RESULTS

Descriptive Statistics

Table 1 presents the descriptive statistics and correlation coefficients between the variables. Gender and age did not significantly correlate with the study variables except for a significant correlation between gender and psychological inflexibility and between age and psychological distress. Due to unequal distribution, gender was not added into the model. Correlation coefficients show that variables revealed moderate to large correlation coefficients – ranging from $r = .26$ to $.60$. Thwarted autonomy, relatedness and competence had moderate correlation with psychological distress and large correlation with PI. The present research hypothesized that PI would mediate the relationship of thwarted needs with psychological distress.

Table 1. Correlation coefficients and descriptive statistics for study variables

	Correlation Coefficients								
	1	2	3	4	5	6	7	8	9
1 Gender	--								
2 Age	0.00	--							
3 Distress	-0.10	-0.14*	--						
4 Anxiety	-0.17*	-0.08	0.91***	--					
5 Depression	0.00	-0.17*	0.91***	0.66***	--				
6 Inflexibility	-0.14*	-0.01	0.52***	0.48***	0.46***	--			
7 Autonomy	-0.01	-0.05	0.32***	0.26***	0.34***	0.41***	--		
8 Relatedness	0.02	-0.07	0.26***	0.21***	0.26***	0.45***	0.37***	--	
9 Competence	-0.01	-0.08	0.31***	0.22***	0.34***	0.60***	0.44***	0.47***	--
	Descriptive Statistics								
<i>M</i>	0.26	21.68	1.61	2.82	3.62	3.73	3.44	2.23	2.88
<i>SD</i>	0.44	4.31	0.82	1.83	1.79	1.44	1.11	1.19	1.20
<i>Skewness</i>	--	3.44	0.00	0.23	-0.23	0.18	-0.22	0.83	0.21
<i>Kurtosis</i>	-0.82	12.21	-0.94	-1.03	-0.96	-0.80	-1.01	-0.37	1.02
<i>Alpha</i>	--	--	.85	.82	.74	.88	.87	.89	.90

Note. N= 223; Gender was coded as women = 0, men = 1; * $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

Test of the Measurement Model

The measurement model included need frustration with three latent variables, psychological inflexibility and psychological distress. Psychological distress included a second-order factor structure with two indicators and each indicator had two items. Estimation of the measurement model through confirmatory factor analysis showed a good fit for need frustration $\chi^2(51) = 122.79$, $p < 0.001$, RMSEA = 0.08; CFI

= 0.96; TLI = 0.95; SRMR = 0.05 and psychological distress, $\chi^2(1) = .10, p > 0.001, RMSEA = 0.00$; CFI = 1.0; TLI = 1.0; SRMR = 0.00. The fit statistics for psychological inflexibility (PI) indicated a mediocre fit, $\chi^2(14) = 112.98, p < 0.001, \chi^2/df = 8.07, RMSEA = 0.18$; CFI = 0.87; TLI = 0.81; SRMR = 0.07. The fit statistics for psychological inflexibility is further examined with modification function (“modificationIndices ()”) in the Lavaan package in R. The modification suggestions with a value greater than 25 were defined in the model. Modification suggestions indicated a relationship between the residuals of item 1 and 4 of the PI ($M_i = 63$). This modification considerably improved the fit statistics, $\chi^2(13) = 52.85, p < 0.001, \chi^2/df = 4.06, RMSEA = 0.11$; CFI = 0.95; TLI = 0.92; SRMR = 0.05. All items loadings on their respective latent variables were above .70, except for Item 1 (.66) and 6 (.64) for psychological inflexibility and Item 3 (.67) for psychological distress. Based on these findings, the measurement model shows an acceptable fit to the data.

Test of the Structural Model

As Figure 1 shows, the hypothesized model in the present research tests whether thwarted autonomy, relatedness and competence predict PI, which in turn predicts psychological distress. Thwarted autonomy, relatedness and competence were allowed to correlate. Figure 2 presents R output of the analysis of the hypothesized model. Table 2 presents both significant and nonsignificant direct and indirect (mediated) relationships.

The model fit statistics provide information whether the model fits to the data. The test of the model fit with 5000 bootstrap revealed acceptable fit statistics, $\chi^2(217) = 472.58, p < 0.001, \chi^2/df = 2.17, RMSEA = 0.07 (.06 - .08)$; CFI = 0.92; TLI = 0.91; SRMR = 0.06. The findings regarding the parameter estimates showed that thwarted autonomy ($\beta = .15, p > .05$), relatedness ($\beta = .04, p > .05$) and competence ($\beta = -.17, p > .05$) did not have significant direct relationship with psychological distress. Competence had a large ($\beta = .53, p < .001$) and relatedness ($\beta = .15, p < .05$) had a small direct relationships with PI while autonomy ($\beta = .13, p > .05$) was not significantly related with PI. PI had significant large direct relationship with psychological distress ($\beta = .66, p < .001$). Overall, these results showed that thwarted competence and relatedness have unique contributions to PI. Similarly, higher scores on PI predicted higher scores on psychological distress.

Table 2. Direct and indirect (mediating) relationships

Predictor	Mediator	Criterion	<i>b</i>	<i>se</i>	β	z
Autonomy →	--	Distress	0.13	0.09	0.15	1.543
Relatedness →	--	Distress	0.03	0.07	0.04	0.404
Competence →	--	Distress	-0.12	0.10	-0.17	-1.241
Autonomy →	--	Inflexibility	0.18	0.13	0.13	1.340
Relatedness →	--	Inflexibility	0.18*	0.09	0.15	1.994
Competence →	--	Inflexibility	0.59***	0.12	0.53	5.042
Inflexibility →	--	Distress	0.40***	0.09	0.66	4.335
Autonomy →	Inflexibility →	Distress	0.07	0.05	0.08	1.306
Relatedness →	Inflexibility →	Distress	0.07 ^a	0.04	0.10	1.890
Competence →	Inflexibility →	Distress	0.24**	0.07	0.35	3.364

Note. N= 223; ^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

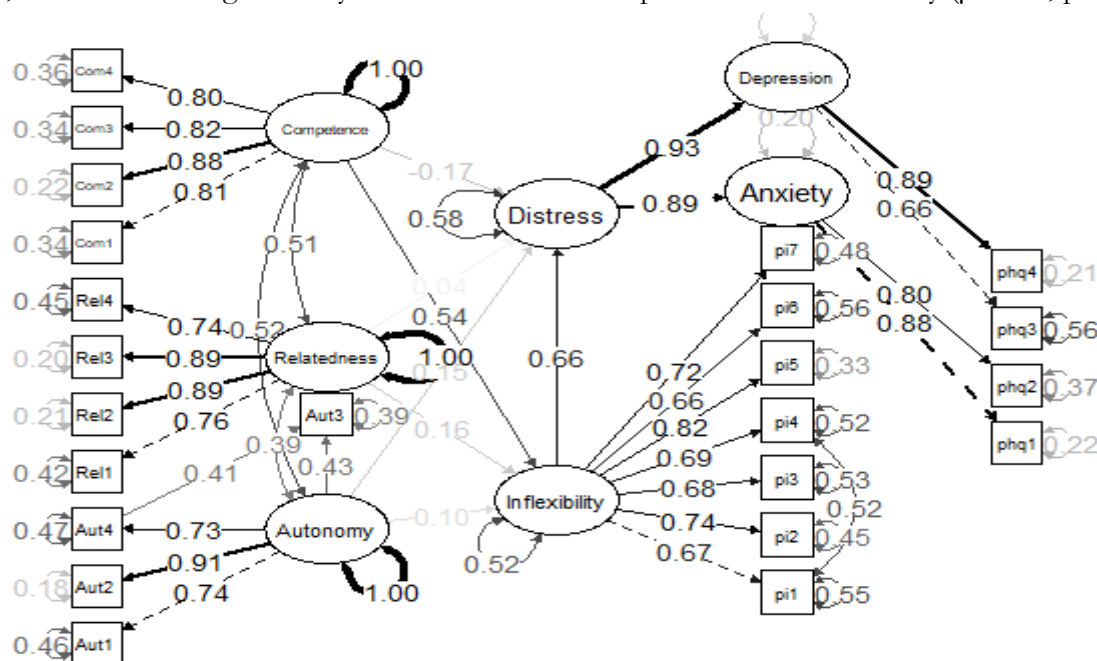
Distress = Anxiety and depression symptoms of PHQ-4 were used as the indicator of psychological distress.

Autonomy, competence and relatedness consist the 12 items of The BPNSFS – Frustration Scales.

Inflexibility represents psychological inflexibility.

The hypothesized model includes indirect paths as shown in Figure 2 from thwarted autonomy, competence and relatedness to psychological distress through PI. Table 2 presents detailed findings.

Indirect paths represent the mediating role of PI between the thwarted needs and psychological distress. The results indicated that PI was a significant mediator in the relationship of thwarted competence ($\beta = .35, p < .001$) and marginally significant mediator for relatedness ($\beta = .10, p = .051$) with psychological distress, but PI did not significantly mediate the relationship of thwarted autonomy ($\beta = .06, p > .05$). PI



mediating the relationship of thwarted competence with psychological distress had the largest mediation path coefficient.

Figure 2. The SEM results with standardized coefficients (standard errors) and residuals

DISCUSSION

Research in Western cultures established the link between need satisfaction and psychological distress, leaving little doubt about the benefit of need satisfaction for wellbeing (Deci & Ryan, 1985; Ryan & Deci, 2000a; Vansteenkiste & Ryan, 2013). However, the detriment of need frustration for mental health is a relatively less studied concept (Bartholomew et al., 2011) despite the growing supportive findings (Bartholomew et al., 2011; Chen et al., 2015; Vansteenkiste & Ryan, 2013). Theoretical papers emphasized the role of self-determination in well-being and mental health concerns (Ryan & Deci, 2017), particularly the role of autonomy (Beck et al., 2003; Deci & Ryan, 1985; Gaudreau et al., 2012; Kunst et al., 2019; Ryan & Deci, 2017). In the theoretical papers, the need for autonomy appears as the core structure as a starting point for self-determination (e.g., Deci & Ryan, 1985). To reiterate, consistent with research findings (Campbell et al., 2018) and theoretical premises (Ryan & Deci, 2017), thwarted autonomy, competence and relatedness were particularly hypothesized to predict anxiety and depression symptoms. While thwarted needs were moderately correlated with psychological distress, the present findings emphasized that thwarted needs were not significantly related to psychological distress controlling the influence of psychological inflexibility. In the present sample of university students, adding psychological inflexibility to the model, none of the thwarted needs had unique contributions to psychological distress – anxiety and depression symptoms. These findings do not claim that thwarted needs are not important

to anxiety and depression, but point to other processes that exacerbate mental health concerns like the mediating role of psychological inflexibility.

Several researchers pointed to the mediator role of PI in the relationship between risk factors and maladaptive behaviors (Kashdan et al., 2006; Kingston et al., 2010; Spinhoven et al., 2014). Similar to previous studies, psychological inflexibility was associated with psychological distress (Bond et al., 2011; Hayes, Follette, et al., 2004; Morris et al., 2015; O'Toole et al., 2017). The present findings further supported that PI mediated the relationship of thwarted competence and relatedness with psychological distress, but it did not mediate the relationship of thwarted autonomy with psychological distress. The strength of the relationship of need frustrations with psychological distress was strongest for the competence while the mediating role of relatedness was barely significant and autonomy was nonsignificant. These findings provide support that thwarted competence and relatedness contribute to inflexible and avoidant responses (Ryan et al., 2015), and this inflexibility is associated with symptoms of anxiety and depression. The nonsignificance of thwarted autonomy may be associated with the peculiar context of the pandemic and the context of Turkish culture.

The characteristics of Turkish culture may explain the seeming less importance of autonomy compared to competence and relatedness. Turkish culture is characterized with collectivistic tendencies (Kagitcibasi & Ataca, 2005) and encourages interdependence, in-group harmony and relational connection (Citlak et al., 2008; Kagitcibasi & Ataca, 2005; Sunar, 2002). Therefore, autonomy as a basic need may be less of importance compared to the significance of thwarted competence and relatedness. That is, university students as emerging adults might be okay with compromising their autonomy. The thwarted competence and relatedness might be more significant to cultural values. The basic universal needs may have similar benefits across cultures (Benita et al., 2020; Chen et al., 2015), but the present research thus proposes potential differing pathways from individual need frustration to mental health problems. Rouse et al. (2020) indeed pointed to the different profiles: Individuals with high autonomy frustration and low autonomy satisfaction reported the highest level of depression symptoms. While Rouse and colleagues point to the different profiles of need frustration vs. need satisfaction, the present findings also suggest different significance of thwarted needs according to the cultural context. In addition, the context of the study may also had an impact on the results. Participants who provided data were with their families due to the lock down of universities and dorms. Because their autonomy was inevitably compromised, their sense of competence and relatedness might have gained saliency.

Future Research Recommendations

The current research is conducted within a sample of Turkish university students. Future researchers may test the present findings in other cultures and age groups. The present research also points to potential cultural moderation of the findings, yet there is no way to test this assumption in the present study because the present study did not include any measurement of cultural characteristics. Future researchers may look deeper into how cultural constructs facilitate basic universal needs' relationship with PI and psychological distress. In addition, present research was particularly interested in need frustration and psychological inflexibility – often called the dark side (Bartholomew et al., 2011; Kashdan & Rottenberg, 2010; Ryan & Deci, 2000b)– in predicting anxiety and depression symptoms and did not include the brighter side of them – need satisfaction and psychological flexibility. Future researchers may contrast dark and bright sides of ACT and SDT in predicting psychological distress and other mental health problems.

Potential Implications for Counselors

These findings have several important implications for counselors working with university students. University students go through several transitions and endure pressure of these transitions to adult life (Arnett, 2015). Within the context of these transitions, university students may experience frustrations in their autonomy, competence and relatedness, which may compromise their wellbeing. University counselors may help university students be more adaptive in responding to emotional experiences, using their mental resources, and taking perspectives against the situational demands of university life (Hayes, Follette, et al., 2004). In addition, given that previous researchers produced universal understanding of need frustration, it is important for counselors to consider their clients' cultural background. Instead of viewing the basic needs as a solidified construct across individuals in the development of psychological distress, counselors may consider the nuances of socio-cultural context and individual differences like psychological inflexibility in the function of need frustration. Counselors may work with clients to make sense of their cultural framework in that they can assess and deal with the functional and dysfunctional roles of psychological inflexibility in clients' mental health concerns and navigating self-determination. That is, counselors may help clients understand their repertoire of coping with life difficulties and their behaviors in seeking autonomy, competence and relatedness. Furthermore, research is scarce to inform variations in self-determination. Counselors may review the present findings as a starting point to help clients from similar cultural backgrounds.

Limitations

This research has several limitations worth noting. The present research included a sample of Turkish university students recruited by a convenience sampling procedure. Therefore, the results of this study should be cross-validated across different samples and populations in order to strengthen the external validity. Instrumentation might be another noteworthy limitation of this research. Participants completed the AAQ-2, which measured PI as a unified construct. However, the AAQ-2 received several criticisms in recent years (Cherry et al., 2021). Even though previous research pointed to the strength and good psychometric properties of the AAQ-2 (Bond et al., 2011), some researchers advise researchers to consider other instruments available in the field and assess PI in multiple dimensions (Cherry et al., 2021).

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Author Contribution

This study was conducted by all the author(s) working together and cooperatively. All of the author(s) substantially contributed to this work in each step of the study.

Conflict of Interest

It has been reported by the author that there is no conflict of interest.

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Ethical Statement

The study was approved by the Istanbul Medeniyet University Social and Human Sciences Research and Publication Ethics Committee at June 5, 2020. In addition, consent forms were obtained from all participants included in the study.

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