

Title: **Temperament and behavioral problems in young children: the protective role of extraversion and effortful control.**

Authors:

Begoña Delgado^a, Miguel A. Carrasco^b, Paloma González-Peña^b, Francisco P. Holgado-Tello*.

^aDepartment of Developmental Psychology (UNED), Madrid, Spain.

^bDepartment of Personality, Assessment and Psychological Treatments
Faculty of Psychology (UNED), Madrid, Spain.

***Correspondence Author:**

Francisco. P. Holgado-Tello

Department of Methodology of Behavioral Science.

Faculty of Psychology. UNED

C/ Juan del Rosal, 10

28040 Madrid

e-mail: pfholgado@psi.uned.es

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Temperament and Behavioral Problems in Young Children: The Protective Role of Extraversion and Effortful Control

Abstract

This study examines the relationships between temperament traits (negative affectivity, extraversion and effortful control) and children's externalized and internalized behavioral problems. The sample was composed of 424 children from the ages of 3 to 6 years old (60% male). Use of a hierarchical regression analysis revealed direct and interactive effects. Specifically, reactive temperamental traits were found to predict behavioral problems in children: negative affect tended to increase externalizing problems, and extraversion tended to decrease internalizing problems. The regulative temperament trait ("effortful control") negatively predicted both internalizing and externalizing problems. To explore moderating effects, post-hoc analyses were conducted using the Johnson-Neyman technique with Hayes's PROCESS. Our analyses revealed that high levels of negative affect (characterized in our study by a higher load of anger or frustration than of fear or sadness) makes a significant and strong contribution to internalizing problems when effortful control reaches its highest levels. Thus, our results endure the protective role of extraversion as preventing the emergence of internalizing problems, and the protective role of effortful control as preventing the emergence of both, internalizing and externalizing, problems. The results also alert to the potential risk of a combination between high levels of effortful control and high levels of negative affect. Overall findings are discussed with regard to previous and future research.

Keywords: young children; temperament; internalizing and externalizing problems; effortful control

The better understanding of children's behavioral problems and the role of temperament in child psychopathology constitute a major concern for researchers and clinicians. Research has demonstrated that temperament dimensions are related to child psychopathology (Carrasco & del Barrio, 2006; Carrasco, Holgado-Tello, Delgado, & González-Paña, 2016; De la Osa et al., 2014a; Frick, 2004; Granero et al., 2016; Muris & Ollendick, 2005; De Paw & Mervielde, 2010). It has even been found that temperamental traits explain child psychopathology to a greater extent than do family variables, particularly through the preschool years (González-Peña et al., 2013).

Specifically, Rothbart's temperament model provides a structure of temperament composed of two reactive dimensions that refer to the physiological excitability of neural systems: negative affect (the general tendency to experience negative emotions such as fear, anger, frustration, and sadness) and surgency/extraversion (the general tendency toward social orientation, positive emotions, and motor activity), and one regulation dimension, referring to the modulation of reactivity: effortful control (hereafter EC, characteristic of inhibitory control and attentional focus as part of executive control and self-regulation). In contrast to the reactive temperamental traits, EC is the ability to inhibit a dominant response in order to perform a subdominant response; it also reflects the capacity to engage executive control processes to permit the overriding of one's reactive tendencies and substitute responses that are better adapted to the requirements of socialized behavior (Posner & Rothbart, 2000). This structure of children's temperaments has also been found for different populations, including Chinese, American (Ahadi, Rothbart, & Ye, 1993), Dutch (Sleddens et al., 2012), and Spanish (de la Osa et al., 2014a; González-Peña, et al., 2015), among others.

An overview of the relationships between temperament traits and psychopathology show that negative affect is associated with high levels of psychopathological symptoms; this appears to be especially true for internalizing symptoms (Eisenberg, et al., 2000; Eisenberg et al., 2001; Lonigan & Phillips, 2001; Muris & Ollendick, 2005). Nevertheless, since negative affect, close to neuroticism, is an heterogeneous temperament trait formed of components prone to inhibition, such as fear, and others that tend to provoke action, such as anger or frustration, negative affect has been also associated with externalizing problems (Murris & Ollendick, 2005; Sanson, Hemphill, & Smart, 2004; Zhou, Mian, & Wang, 2010). Moreover, high extraversion tends to promote externalizing behavioral disorders (Brown, Weatherholt, & Burns, 2010; Carrasco & del Barrio, 2007; de la Osa et al., 2014a; Mervielde, et al., 2005; Prinzie, et al., 2004) and decrease internalizing problems (Clark, Watson, & Mineka, 1994; Watson, Gamez, & Simms, 2005). However, in some studies, extraversion makes a weaker contribution to externalizing problems (Pitzer, Esser, Schmidt, & Laucht, 2009; Prinzie, et al., 2003). EC has

been associated with high social competence, high empathy/sympathy, few internalizing problems and even fewer externalizing problems. (For a more detailed review, see Eisenberg, Spinrad, & Eggum, 2010; Eisenberg, Smith, & Spinrad, 2011.) All three temperamental dimensions have been also associated with different psychological disorders at the ages of three and four, such as negative affect with oppositional defiant disorder (ODD), social phobias, separation anxiety; either EC or extraversion is associated with attention deficit and attention deficit hyperactivity disorder, ODD, and conduct disorder (de la Osa et al., 2014a).

Theoretically, the implications of a given temperament trait should depend, at least in part, on the other traits in an individual's temperament profile. However, there has been relatively little empirical exploration of how one temperament trait moderates the link between another temperament trait and a child's behavioral problems. In this regard, research on moderating variables is an important target in order to explain the relationships between reactive temperament traits and psychopathology. Knowing how traits are differentially implicated in child psychopathology could also provide a more comprehensive overview of relations between temperament and children's adjustment.

Eisenberg et al. (2000) studied the moderating effects of regulation between negative affect and the behavioral problems of children. They found that in children at age seven, regulation (i.e., a combined measure of attentional control and behavioral regulation similar to EC) predicted externalizing behavior, but did so primarily for children prone to frequent and intense negative emotionality. These results were duplicated in the same children when studied two years later, at age nine. Essentially, this indicates that children who have high levels of negative emotionality run a greater risk of developing psychological disorders, particularly when their temperament is characterized by little EC (Calkins & Fox, 2002; Eisenberg et al., 2001; Eisenberg et al., 2005). A significant interaction effect between emotionality/neuroticism and EC on levels of psychopathology has also been found in nonclinical children and adolescents (Lonigan & Vasey, 2009; Lonigan & Phillips, 2001; Lonigan, et al., 2004; Meesters, Muris, & Van Rooijen, 2007; Muris, Meesters, & Blijlevens, 2007). Thus, Lonigan and Vasey (2009) found that children and adolescents who were high in negative affect and low in EC demonstrated a significant attentional bias in favor of threat cues related to anxiety problems. Meesters et al. (2007) showed in a large sample of non-clinical children with a broad age range (9 to 17 years) that high neuroticism and low attentional control tend to be related to more symptoms of proactive aggression. Consistently, Muris, Meesters, and Blijlevens (2007) reported that EC significantly moderated the relation between negative affect and internalizing symptoms in a sample of children ages 9 to 13 years. These studies provide some support for the notion that the combination of high negative affectivity and low EC, in particular, is associated with high

symptom levels, suggesting that reactive temperament factors can be buffered by EC. Thus, one important moderator of the risk associated with heightened reactive temperamental traits is an individual's capacity for effortful control. EC reflects the capacity to engage executive control processes in order to permit overriding of one's reactive tendencies and substitute responses better adapted to one's long-term goals or the requirements of socialized behavior (Lonigan & Phillips, 2001). Although high reactive temperament traits are a necessary condition for the development of most behavioral problems, a combination of high negative affect and low EC could be required (Lonigan, Vasey, Phillips, & Hazen, 2004; Muris et al., 2007).

Based on the role of temperament in children's behavioral problems (Muris & Ollendick, 2005; De Paw & Mervielde, 2010; Posner & Rothbart, 2000), we explore in this study the relations between temperament traits and externalizing and internalizing behavioral problems in children. Specifically, we explore both the independent effects of temperament traits on child psychopathology and the moderating role of self-regulation between reactive temperament traits (extraversion and negative affect) and behavioral problems. In addition, we address whether these additive and interactive effects differ when externalizing and internalizing problems are considered as dependent variables.

Method

Participants

The sample selection was made by cluster sampling, taking the school center as the sample unit. Twelve public schools in communities throughout Madrid were randomly selected from a total of 1132 public schools. Ultimately, 11 schools offering the first and second levels of early childhood education (from 4 months to 7 years) elected to participate. The socioeconomic status of the selected schools was about average. The participants were 424 subjects (60% boys) who ranged in age from 3 to 7 years old ($M=4.31$, $SD=3.06$). All of the children attended school, and the majority lived in two-parent households (85%) and represented the middle socioeconomic level according to the Hollingshead scale (1975). All of the children were Caucasian. The participation rate of families was 96.4%. The percentage of missing data was very low (under 6%). Given this percentage, no bias was found for the non-participating families on the demographic variables (i.e., sex, age, and socioeconomic level).

Procedure

We received authorization from the administration and school boards of 11 institutions to carry out the study. Each child's participation in the study was voluntary and contingent on the informed consent of his or her parents. The mother of each participating child was asked to complete the CBQ and the CBCL; the completed forms were returned to the researchers for analysis. At the end of the study, parents received feedback regarding the temperament and behavioral problems of their children. This feedback was provided in an individual report that included all temperament and behavioral scores, with a brief comment about the child's significant temperament traits and behavioral problems. An individual recommendation to parents for a broader evaluation was provided when children's temperamental traits or behavioral problems were at risk level. The questionnaires were distributed and collected by the children's teachers and one trained psychologist.

Measures

The *Children's Behavior Questionnaire* (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001): This instrument contains 195 items that address children's behaviors in the context of everyday situations, such as playing and receiving caregiving. Items are answered on a seven-point Likert scale that corresponds to the frequency of each behavior in the previous week. Options range from 1="never" to 7="always." The option X="does not apply" could be selected if the situation described in the question did not occur during the time being evaluated. This questionnaire is composed of three major dimensions of temperament: negative affect, extroversion, and EC. Negative affect refers to a child becoming upset in reaction to unpleasant events (75 items, e.g., "Has temper tantrums when he/she doesn't get what he/she wants") and includes characteristics of temperament such as discomfort, fear, sadness, and shyness. Extraversion measures a child's tendency towards stimulation, novelty, impulsivity, activity, dominance, and positive affect according to the traditional construct of extraversion characteristics (116 items, e.g., "Laughs a lot at jokes and ridiculous things") (Eysenck, 1967; Rothbart & Ahadi, 2007). EC refers to a child's ability to exercise control over a certain action, attentional shifting or focusing, inhibiting a dominant response (inhibitory control), detecting errors, and participating in planning an action (74 items, e.g., "Easily switches from one activity to another"). In this study, we used the Spanish version of CBQ (González-Peña, et al., 2015). Cronbach's alpha in this study was 0.89 for negative affect, 0.86 for extraversion, 0.90 for EC.

The Children's Behavior Check-list (CBCL/4-18; Achenbach, 1991; Achenbach, 1993; Spanish adaptation by Sardinero, Pedreira, & Muñiz, 1997) is an inventory for parents from the Achenbach System of Empirically-Based Assessment (ASEBA). We focused on the checklist of the inventory, which assesses

children's behavioral and emotional problems. The CBCL contains 113 items with a Likert scale of three points: 0=not true, 1=somewhat or sometimes true, and 2=very or often true. This instrument provides information on different psychological syndromes that have been empirically obtained by factorial analysis. In this study, we consider the broad dimensions of internalizing problems (e.g., anxious/depressed, somatic complaints, and withdrawn) and externalizing problems (e.g., behavioral problems and aggressive behavior), according to Achenbach and Rescorla (2001). For the purposes of this study we use raw scores. The internalizing and externalizing scales have shown transculturally good psychometric properties in different populations (see Achenbach & Rescorla, 2007; Verhulst & Achenbach, 1995). Through different Spanish studies, internal consistency for these broad dimensions has been reported with values higher than 0.86 (Albores et al., 2007; Bernedo, Fuentes, & Fernández, 2008; Sardinero et al., 1997), providing a good fit with the data across racial/ethnic and income groups (Gross et al., 2006). Validity has been also supported in these studies by showing significant correlations between CBCL scores and other measures of behavioral problems, child or adolescent psychopathology, temperament dimensions, functional impairment, and parenting styles, among other factors (Braza et al., 2015; de la Osa, et al., 1997; de la Osa et al., 2014a; de la Osa et al., 2014b;). In this study, Cronbach's alpha was 0.89 for internalizing problems (anxious/depressed, withdrawn, and somatic complaints) and 0.91 for externalizing problems (rule-breaking behavior and aggressive behavior). Internalizing and externalizing scales were correlated at 0.68.

Data Analyses

In order to explore the links between temperament and behavioral problems, Pearson correlations and multiple regression analysis were conducted. Variables in the regression analysis were hierarchically included in three steps: in the first step, we introduced gender and age as control variables of children's adjustment; in the second, the reactive temperament variables of negative affectivity and extraversion; in the third step, the regulative temperament variable, effortful control; and in the fourth step, we included the product term variables in order to explore the moderating effect of EC. Finally, for *post-hoc* analyses, the Johnson-Neyman technique with Hayes's PROCESS command in SPSS was used (Hayes, 2013). The technique uses an iterative process in order to analyze a multi-categorical IV with a continuous moderator variable. All analyses were conducted using the IBM SPSS statistics 19 software.

Results

[Insert Table 1 here]

Table 1 shows Pearson's correlations among variables. As we can see, negative affect is positively related with externalizing problems (but not internalizing), and extraversion is negatively related with internalizing problems (but not externalizing). Finally, internalizing and externalizing problems are significantly linked, sharing 46% variance.

Hierarchical multiple regression analyses were conducted in order to explore the main contributions of antecedent variables (independents) on the behavioral problems (internalizing and externalizing) and the possible moderating effects of EC. Step 1 included gender and age as control variables; steps 2 and 3 included the independent variables of reactive temperament (negative affect and extraversion) and regulative temperament traits (EC), respectively; and step 4 included the interaction terms (negative affect*effortful control, extraversion*effortful control).

[Insert Table 2 here]

As can be seen in Table 2, negative affect makes an independent and positive contribution to externalizing problems (but not internalizing), and extraversion makes an independent and negative contribution to internalizing problems (but not externalizing). EC was significant and negatively associated with both internalizing and externalizing problems. When EC was included in step 3, the contribution of negative affect was no longer significant. These data also suggest a mediating effect of EC between reactive temperament traits and behavioral problems. Furthermore, a significant interaction term emerges in step 4, negative affect*effortful control.

The results revealed a significant interaction ($b=0.14$, $t=2.28$, $p=0.02$) between negative affect and EC on internalizing problems. The R -square increase due to interaction was 0.02 ($F_{1, 214}=5.22$; $p=0.02$). That is, after controlling for the first order effects (negative affect and EC), the interaction between negative affect and EC explained an additional 2.2% incremental variance in the children's internalizing problems.

In order to probe this interaction, we used the simple slopes of the regression lines to obtain the conditional effects of negative affect on internalizing problems for values of EC corresponding to the 10th ($b=-0.10$, $t=-1.12$, $p=0.26$), 25th ($b=-0.01$, $t=0.17$, $p=0.85$), 50th ($b=0.06$, $t=1.04$, $p=0.30$), 75th ($b=0.15$, $t=2.03$, $p=0.04$), and 90th ($b=0.21$, $t=2.31$, $p=0.02$) percentiles of the distribution. A test of simple slopes revealed that negative affect makes a significant and stronger contribution to internalizing problems when EC reaches high (75th percentile) or very high (90th percentile) levels (see Figure 1). However, relations between negative affect

and internalizing problems lose their significance under medium (50th percentile), moderate (25th percentile) or low (10th percentile) levels of EC. (These last two lines were omitted in Figure 1.) Using the Johnson-Nyman technique, the conditional effects of negative affect on internalizing problems were significant when the values of the EC scale went beyond 99.95 ($p < 0.05$).

[Insert Figure 1 here]

Discussion

The current study investigated the links between parents' reported temperament traits (reactive and regulative) and psychopathological symptoms in a non-clinical sample of three- to six-year-old children. The proposed model analyzed these relations, using EC as moderator between reactive temperament traits and children's symptoms. Clarifying the moderation role of the child's EC in explaining the association between temperament reactive traits (e.g., negative affect and extraversion) and psychopathology could be instrumental in advancing our comprehension of the etiology of externalizing and internalizing problems (De Pauw & Mervielde, 2010; Frick, 2004).

Findings concerning relations between temperament and behavioral problems showed that negative affect made an independent and positive contribution to externalizing problems, and extraversion made an independent and negative contribution to internalizing problems. Furthermore, EC was negatively associated with both kinds of symptoms. These results are consistent with previous research (Brown et al., 2010; de la Osa et al., 2014a; Carrasco & del Barrio, 2006; Eisenberg et al., 2000; Eisenberg, 2001; King, Lengua, & Monahan, 2013; Lonigan & Phillips 2001; Mervielde et al., 2005; Muris & Ollendick, 2005; Prinzie et al., 2004). However, our expectations were only partially confirmed since extraversion was not related to externalizing problems, and negative affect was not related to internalizing problems.

A great deal of evidence supports positive relations between negative affect and externalizing problems (Brown et al., 2010; Carrasco & del Barrio, 2007; de la Osa et al., 2014a; Mervielde et al., 2005; Prinzie et al., 2004) as well as negative relations between extraversion and internalizing problems (Clark et al., 1994; de la Osa et al., 2014a; Watson et al., 2005); children who are very low in extraversion may lack an optimal level of approach-oriented behavior and positive emotion and be prone to internalizing problems (Eisenberg et al., 2009). However, challenging our expectations, extraversion was not related to externalizing problems. Though previous results regarding relationships between extraversion and externalizing problems are not completely consistent, a positive relationship between extraversion and externalizing problems has been frequently sustained (Brown et al., 2010; Mervielde et al., 2005; Prinzie et al., 2004). In contrast, our results characterize extraversion as a

protective trait, though other explanations are also possible: the children's level of extraversion was not high enough, or children with externalizing problems also have internalizing problems (i.e., they are not a pure group). These inconsistencies can be explained by the children's EC levels, which have not been always been taken into account.

In the context of child temperament research, we also found an unexpectedly non-significant relation between negative affect and internalizing problems. The key to understanding this result could be in the different emotional components of negative affect. According to Rothbart's research, negative affect comprises emotions that are prone to inhibition (i.e., sadness or fear) as well as emotions that tend to provoke aggression (i.e., anger and frustration) (Rothbart & Bates, 2006; Rothbart et al., 2001). As suggested by Muris & Ollendick (2005) it could explain why negative affect/neuroticism may be related to internalizing as well as externalizing problems. Thus, while sadness and fear have been associated with internalizing problems (Eisenberg et al., 2001; Eisenberg et al., 2009; Muris et al., 2007), anger has been systematically related to aggression and externalizing problems (Carrasco & del Barrio, 2006; del Barrio, Aluja, & Spielberger, 2004; Gartstein, Putnam, & Rothbart, 2012; Zhou et al., 2010). Thus, considering that the negative affect factor of the specific adaptation used in this study (González-Peña et al., 2015) has a lesser load of sadness (0.67) than of anger/frustration (0.87), the unexpectedly non-significant relation between negative affect and internalizing problems can be considered a consequence of what Spielberger and others have found about the consequences of the anger-out style or externalized anger (Spielberger, 1988; Spielberger et al., 1985; del Barrio, Aluja, & Spielberger, 2004), this is, when anger is expressed outwardly and the method of coping with anger involves physical or verbal aggression.

Our results showed effortful control was negatively related to behavioral problems, and this relation was stronger for externalizing problems. This confirms our hypothesis and supports the role of inhibitory control or attention control as regulative process of psychological problems in children (Burnson, Poehlmann, & Schwichtenberg, 2013; Di Norcia, Pecora, Bombi, Baumgartner, & Laghi, 2015; Eisenberg et al., 2010; Eisenberg et al., 2011; Olson, Sameroff, Kerr, Lopez, & Wellman, 2005), particularly for externalizing problems. Given the shared implications for executive skills in both EC and externalizing problems (Martel et al., 2007), it is likely that inhibitory control is more associated with externalizing rather than internalizing problems (Eisenberg et al., 2001; Eisenberg et al., 2009; Eisenberg et al., 2005).

As far as moderating relations are concerned, some support was found in this study for the moderating effects of EC. Reactive temperament traits and children's behavioral problems were found to be especially closely related to EC. In particular, a significant interaction appeared between negative affect and EC with

regard to internalizing problems. Interaction effects showed that EC moderates the degree of relation between negative affect and internalizing problems. Specifically, children who have both higher levels of negative affect and a higher level of EC also reach higher levels of internalizing problems. Thus, EC was not found to buffer the impact of negative affect on children's internalizing problems. Moreover, higher levels of EC may indicate a tendency to be behaviorally inhibited or over-controlled. Children who are classified as behaviorally inhibited or over-controlled (e.g., cautious, vigilant, and physiologically distressed in the presence of novel stimuli) are at an increased risk for internalizing behaviors such as social anxiety or phobias (Biederman et al., 2001; Eisenberg et al., 2000; Murray & Kochanska, 2002). This moderating effect resembles Spielberger and others' findings about the consequences of internalized anger. The *anger-in* style represents an attempt to repress anger and prevent the outward expression of this emotion. As a consequence, anger may be addressed to the self, resulting in anxiety and depression in children and adolescents (Spielberger, 1988; Spielberger et al., 1985; del Barrio, Aluja, & Spileberger, 2004; Hussian & Sharma, 2014; Kerr & Schneider, 2008). This is especially true of school-aged children because internalizing symptoms tend to emerge in later childhood as social and emotional demands increase. No interaction terms between negative affect and EC were significant for externalizing problems. This was consistent with the findings of Olson et al. (2005), who studied three-year-old children and did not find that negative emotionality moderated the relations between EC and externalizing problems. We speculate, in accordance with Olson et al. (2005), that this negative emotionality may start to moderate the relations of EC and externalizing problems after the early years of childhood development, possibly because of the emergence of more mature EC and/or more serious externalizing and internalizing problems.

Limitations

Several limitations should be considered in this study. First, the measures used were limited to maternal reports; second, internalizing and externalizing problems were significantly correlated; pure internalizing scores versus pure externalizing scores might show different results (Eisenberg et al., 2009). Further research is needed in order to explore these relations using different sources of information in pure groups of externalizing and internalizing problems. Future studies should explore the mediating role of EC between reactive temperament traits and behavioral problems.

Author contributions: B.D wrote the literature review and edited the final manuscript. P.G.P collected the data and wrote the literature review. M.A.C. wrote the literature review and conducted the data analysis. F.P.H.T conducted the data analysis and wrote the results.

Compliance with Ethical Standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the UNED (Universidad Nacional de Educación a Distancia) and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants included in the study.

Finally, the authors report no conflicts of interest.

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FINAL VERSION ACCEPTED

Table 1

Correlations and Basic Descriptive Statistics

	1	2	3	4	5
1.Negative Affect	---				
2.Extraversion	-0.29**	---			
3.Effortful Control	-0.26**	-0.25**	---		
4.Internalizing Problems	.11	-0.26**	-0.20**	---	
5.Externalizing Problems	.17*	.02	-0.42**	0.68**	---
Mean	49.76	97.68	91.40	8.49	10.24
Standard deviation	8.35	16.19	14.32	7.28	7.60

* $p < 0.05$; ** $p < 0.01$

Table 2

Hierarchical Regression Analysis Predicting Internalizing and Externalizing Problems

	Internalizing Problems				Externalizing Problems			
	Const.	Stand. β	R ²	Δ R ²	Const.	Stand. β	R ²	Δ R ²
Step 1								
Gender	0.21	-0.07	0.00	0.00	-.62**	-0.20**	0.03	0.03**
Age		-0.03				-0.05		
Step 2								
Gender		0.07				-0.21**		
Age	0.18	-0.06	0.06	0.06**	0.64**	0.08	0.06	0.03*
Negative Affect		0.03				0.20**		
Extraversion		-0.22**				0.07		
Step 3								
Gender		0.90				-0.14**		
Age		-0.02				0.10		
Negative Affect	0.07	-0.07	0.13	0.07**	0.46*	0.05	0.19	0.16**
Extraversion		-0.33**				-0.07		
Effortful Control		-0.30**				-0.41**		
Step 4								
Gender		0.04				-0.14**		
Age		-0.01				0.10		
Negative Affect		-0.08				0.05		
Extraversion	0.06	-0.34**	0.15	0.02*	0.44*	-0.08	0.19	0.00
Effortful Control		-0.33 **				-0.42**		
N.Affect*E.Control		0.14*				0.07		
Extraversion*E.Control		0.01				0.00		

Note. Step 1=Covariables; Step 2=Partial effects of reactive temperament traits; Step 3=Partial effects of

regulative temperament traits; Step 4=Product term variables (moderation).

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

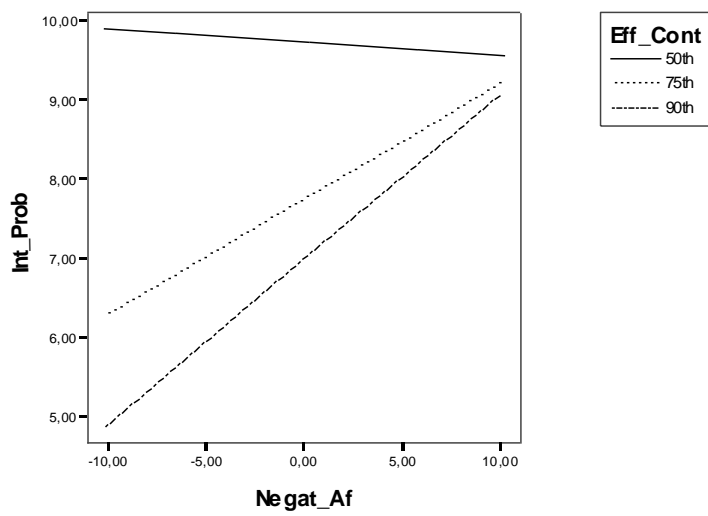


Figure 1. Internalizing Problems as a Function of Effortful Control and Negative Affect. Effortful control was analyzed at the 50th, 75th, and 90th percentile levels. Negat_Af=negative affect; Eff_Cont=effortful control; Int_Prob=internalizing problems.