

**The Moderating Role of Self-Construals in the Relation From Maternal Guilt-Induction
and Autonomy Support to Need Frustration**

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Abstract

Abundant research has shown that parental psychological control, including guilt-induction, can have detrimental effects lasting into young adulthood. Based on Self-Determination Theory (SDT) and specifically Basic Psychological Needs Theory (BPNT), the current experimental study looked at the effect of parental guilt-induction and autonomy support on young adults' need frustration. Additionally, the role of independent and interdependent self-construals was examined. In total, 659 participants participated in this online experimental study (34.4% Greek, 29.7% Turkish, 17% German and 11.7% Bulgarian). Participants were randomly allocated to a vignette with one of three conditions (i.e., autonomy support, guilt-induction low warmth, guilt-induction high warmth). Before and after reading the vignette, participants filled out the questionnaire. Results showed that guilt-induction predicted a higher level of need frustration, whereas autonomy support predicted less need frustration. Furthermore, the results showed no moderation of self-construal on the relations towards need frustration, which contradicts Markus and Kitayama's model of self-construal. More research is needed to clarify these contradictions and to gain clear insights into the relations in the cultural context.

Keywords: maternal guilt-induction, Self-Determination Theory, basic psychological needs, need frustration, independent self-construal, interdependent self-construal, autonomy support

The Moderating Role of Self-Construals in the Relation From Maternal Guilt-Induction and Autonomy Support to Need Frustration

A child's growth and transition into adulthood are negatively impacted by guilt-induction, which refers to a parent attempting to change a child's behaviour by generating feelings of guilt (Baumeister, 1998; Choe et al., 2020). The current experimental study was based on the conceptual framework of the Basic Psychological Needs Theory (BPNT), one of six mini-theories within the Self-Determination Theory (SDT; Ryan & Deci, 2000). BPNT consists of three basic needs: autonomy, relatedness, and competence. These needs are essential for functioning and well-being (Ryan & Deci, 2000) and are universal across multiple cultures (Chen et al., 2015; Soenens & Vansteenkiste, 2010). Autonomy is the need to regulate one's experiences and behaviour volitionally, relatedness refers to having social connections and competence is defined as the fundamental desire to feel effectance and ability (Ryan & Deci, 2017). The basic needs serve as a basis for understanding why guilt-induction, as a form of psychological control, is linked to weakened mental wellness (Soenens & Vansteenkiste, 2010) and thus likely results in need frustration in the individual.

Interestingly, research has yet to find a consensus on whether guilt-induction is harmful (Baumeister, 1998; Chen et al., 2016; Rote & Smetana, 2017). Therefore, and for the above reasoning, this study aimed at shedding light on how guilt-induction affects the frustration of basic psychological needs and whether autonomy-supportive parenting, in which the parent promotes independent thought and exploration, reduces need frustration. Furthermore, this study considered culturally shaped self-perception as a potential moderator, as culture is essential in BPNT (Chen et al., 2015, 2016). However, not much is known about the role of cultural dimensions in the relations mentioned above, and little experimental research has been conducted that explicitly addresses guilt-induction and basic need frustration in the context of culture.

The Relations from Maternal Guilt-Induction and Autonomy Support to Need Frustration

Maternal guilt-induction refers to the mother's conduct to make her offspring feel guilty about a particular behaviour (Baumeister, 1998). In practice, maternal guilt-induction manifests as, for example, when the mother brings out how much effort she makes and how disappointed she is by the behaviour she is encountering. On the other end, *autonomy support* refers to encouraging and promoting volitional decision-making, adopting a child's perspective, and providing an appropriate rationale when communicating rules (Cheung et al., 2016; Soenens et al., 2015).

A study by Costa et al. (2016) on late adolescents found a moderate positive relation between maternal psychological control (i.e., guilt-induction, shame induction, anxiety induction and conditional regard) and need frustration. Need frustration, overall, is strongly linked to ill-being, defensiveness, passivity, and psychopathology, especially when activated by a parent (Chen et al., 2015; Vansteenkiste & Ryan, 2013). The same study also discovered a positive link between parental autonomy support and need satisfaction of autonomy, relatedness, and competence. In support of that, it has been found that autonomy support is positively correlated to optimal psychological functioning in adolescence (Soenens et al., 2007). Since autonomy-supportive parenting promotes the satisfaction of the three needs (Grolnick et al., 1997), it seems reasonable that the absence of autonomy-supportive behaviour can lead to low need satisfaction. Low need satisfaction, however, does not necessarily result in need frustration; therefore, the two must be seen as separate constructs (Chen et al., 2015; Van der Kaap-Deeder et al., 2017; Vansteenkiste & Ryan, 2013).

Interestingly, in an empirical study, Chen et al. (2016) found that for Belgian adolescents' perceived guilt-induction is indeed sufficient to have feelings of need frustration. Likewise, in Chinese culture with its collectivism, guilt-induction is perceived as more

controlling than autonomy-supportive parenting and is related to need frustration (Chen et al., 2016). The research by Chen et al. (2016) is one of few, if not the only, that suggests a causal link and is, therefore, influential and foundational for the setup of the current study. By contrast, most of the previous research is correlational and hence unable to demonstrate whether these parenting dimensions causally affect need frustration.

The Moderating Role of Self-Construal

To investigate culture's role in this context, Markus and Kitayama's (1991) concept of self-construals were examined. The term *self-construal* implies how individuals from different cultural backgrounds perceive themselves. While a person with an *interdependent self-construal* sees themselves as intertwined and fundamentally connected to others, a person with an *independent self-construal* sees themselves as relatively separate, autonomous, and unique concerning others (Harb & Smith, 2008; Hewstone et al., 2012; Markus & Kitayama, 1991).

As introduced before, Chen et al. (2016) looked closely at parental guilt-induction and autonomy support and its effect on need frustration. Belgian individuals perceived guilt-induction as more controlling than Chinese individuals, but both perceived it as psychological control, regardless of their background. Furthermore, they found that among Chinese participants, guilt-induction was not only to a lesser extent perceived as controlling but also had a less severe impact compared to other parental control techniques, such as shame or anxiety induction (Chen et al., 2016).

Regarding self-construals in parenting specifically, previous studies suggest a positive link between psychological control and interdependent self-construal (Chao & Tseng, 2002; Park et al., 2010). Moreover, Yao et al. (2021) found in an adolescent sample that independent self-construal is linked to an authoritative parenting style, characterized by

conformity, secure attachment and warmth, whereas interdependent parenting is linked to authoritarian parenting, which is characterized by control and authority (Baumrind, 1971).

Cultures are diverse, and each individual holds independent and interdependent self-construals (Giacomin & Jordan, 2017; Kolstad & Horpestad, 2009; Markus & Kitayama, 1991). In past research, self-construal was often measured as one-dimensional (independence versus interdependence), whereas present research implies that independence and interdependence coexist in one individual (Giacomin & Jordan, 2017; Her & Dunsmore, 2011; Markus & Kitayama, 1991; Singelis, 1994). Hence, they were considered as two separate and orthogonal dimensions here.

Following Markus and Kitayama's theory of cultural differences in self-construals (Markus & Kitayama, 1991), it was predicted that a lack of autonomy, competence and relatedness would be higher in interdependent individuals, as the induction of guilt by the mother is more likely to be internalized. On the other hand, independent individuals were expected to be more resilient to guilt-induction and perceive motherly behaviour as controlling.

The Present Research

The current study aimed to shed light on how a guilt-inducing and autonomy-supportive parenting style affects an individual's frustration of basic psychological needs and whether independent or interdependent self-construal moderates that. Previous research in this field is limited and has yet to focus on the role of culturally shaped self-perception; thus, this research is promising to provide insights into cross-cultural differences.

From the above reasoning, four hypotheses emerged. To test these hypotheses, an experimental design was used by presenting three vignettes to the participants in which they were asked to empathize and engage with situations involving maternal guilt-induction or autonomy-supportive behaviour. First, maternal guilt-induction was expected to positively

predict need frustration (*Hypothesis 1a*), whereas maternal autonomy support negatively predicts need frustration (*Hypothesis 1b*). Further, these relations were expected to be moderated by individuals' self-construal. Specifically, it is hypothesized that the positive relation between guilt-induction and need frustration is strengthened for individuals with a higher level of an independent self-construal (*Hypothesis 2a*), whereas the negative relation between autonomy support and need frustration is strengthened for individuals with a higher level of an independent self-construal (*Hypothesis 2b*). Lastly, it is hypothesized that the positive relation between guilt-induction and need frustration is weakened for individuals with a higher level of interdependent self-construal (*Hypothesis 3*).

Method

Participants

A total of 659 participants participated in this online experimental study, of which 411 subjects (65.4%) fully completed the survey. Most participants were Greek (34.4%), Turkish (29.7%), German (17%), and Bulgarian (11.7%). The minimum sample size per country was calculated using GPower, corresponding to $n = 96$ participants per country. Participants were young adults between 18 and 25 ($M_{age} = 21.64$ years, $SD = 2.07$), with 69.8% being female. Most participants were students (75.1%), of which 30.8% obtained a bachelor's degree and 4.2% a master's degree. In addition, 51.7% had a high school diploma as their highest level of education. Furthermore, 57.4% of participants were single, 36.9% had a partner (but were not married), 0.8% were married, and 0.5% were divorced or widowed. Regarding employment, 17.3% reported having a full-time job, 21.1% reported having a part-time job, and 57.1% reported not working.

Procedure

Recruitment took place via the snowball technique, mainly through social media (i.e., LinkedIn, Facebook) and personal networks. The online survey tool Qualtrics was used for

data collection. The questionnaire was filled out in one of four languages, namely German (for German participants), Turkish (for Turkish participants), English (for Bulgarian participants), and Greek (for Greek participants). First, information regarding the study and the process was disclosed, along with a notice that the survey could be terminated at any moment. Next, participants had to provide informed consent to be directed to the questionnaire. Subsequently, participants filled out demographic questions and general questionnaires (i.e., not specific to the experimental manipulation). A between-subject experimental design was used in which the participants were randomly allocated to one of three vignettes: guilt-induction with high maternal warmth, guilt-induction with low maternal warmth and autonomy support. For the sake of simplicity, and since warmth is not a factor to be investigated in this paper, the two guilt-induction conditions were merged. Finally, several questions about the vignettes were filled out, and participants were thanked. The total time to complete the survey was about 15 to 20 minutes. Ethical approval was obtained by the Ethical Review Board of the Faculty of Social and Behavioral Sciences of Utrecht University (approval number: 22-2017).

The study was part of a larger project, in which various measures were taken¹. The variables that were of relevance to this sub-project are presented below. If available, the German, Turkish and Greek questionnaires were created with the scale equivalents in the corresponding language and carefully aligned with the vignettes. To ensure conformity, the translations have been carefully checked by an experienced native-speaking researcher and back-translated and compared to the English original. The questionnaire components discussed in this paper are attached in Appendix A to C.

¹ General experienced autonomy support, self-construals, general experienced maternal psychological control, general emotion regulation, general experienced maternal guilt-induction, individual culture, general experienced maternal warmth, general emotion regulation, perceived guilt-induction in the vignette, perceived maternal warmth in response to the vignette, perceived autonomy support in response to the vignette, emotion regulation in response to the vignette, and need satisfaction and frustration in response to the vignette

Measures

At first, sociodemographic measures were obtained. These include age, gender, educational level, marital status, employment status, student status and, if applicable, the subject of study.

Self-Construal

Twenty-four items were employed to assess the degree of the participant's independent or interdependent self-construals. The self-construal scale was fully adopted from Singelis (1994), consisting of twelve items that measure independent self-construals (e.g., "I enjoy being unique and different from others in many respects") and the remaining twelve items measuring interdependent self-construals (e.g., "If my brother or sister fails, I feel responsible."). Respondents were asked to what extent they agreed with these items on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The independent and interdependent self-construal scales were moderately reliable (Cronbach's $\alpha_{\text{independent}} = .64$; Cronbach's $\alpha_{\text{interdependent}} = .63$).

Experimental Manipulation: Vignettes

Based on the study of Chen et al. (2016), three vignettes were used (see Appendix B). These were related to three different maternal parenting styles in the same situation. In both guilt-induction conditions, the mother expressed disappointment and the sacrifices she made. However, in the guilt-induction with warmth condition, this was combined with smiling and hugging, whereas the mother displayed coldness and distance in the low-warmth condition. Finally, in the autonomy support condition, the mother expressed that she shares the disappointment but comforts their son or daughter that bad grades sometimes happen. The autonomy support-based vignette was taken from Chen et al. (2016), whereas the guilt-induction vignette was adapted to create low and high warmth conditions (Chen et al., 2016; Van Petegem et al., 2015, 2017). Important to say is that Chen et al. (2016) focused on

adolescents, whereas this study examined the long-term consequences of maternal guilt-induction in young adults. Therefore, the vignettes have been slightly adapted to suit young adults.

Perceived Guilt-Induction in the Vignettes

To determine the extent to which the mother's guilt-induction was perceived in response to the vignettes, fifteen items were adopted from multiple scales (e.g., "If my mother reacted this way, I would feel like she tells me of all the things that she has done for me."). Four of the items were adopted from Chen et al. (2016), which originate from the Psychological Control Scale - Youth Self-Report (PCS - YSR; Barber, 1996) and the Perceptions of Parents Scales (POPS; Grolnick et al., 1997). Moreover, four items were adopted from the Psychological Control Scale (PCS; Olsen et al., 2002) and modified to fit the vignettes and the context. Two items were adopted from the Perceived Parental Autonomy Support Scale (P-PASS; Mageau et al., 2015). Further, three items were adopted by a subscale of the Child Rearing Practices Report (CRPR; Roberts et al., 1984). The final two items were also adopted from the PCS-YSR by Barber (1996). Respondents were asked to what extent they agreed with statements on a Likert scale from 1 (*completely disagree*) to 5 (*completely agree*). The scale was reliable (Cronbach's $\alpha = .97$).

Perceived Autonomy Support in the Vignettes

Four items were adopted to assess how maternal autonomy support was perceived in response to the vignettes (e.g., "If my mother reacted this way, I would feel like she allows me to decide things for myself"). The scale is based on the autonomy support scale of the Perceptions of Parents Scale (POPS; Grolnick et al., 1991), as previously used by Chen et al. (2016). Respondents were asked to what extent they agreed with statements on a Likert scale from 1 (*totally disagree*) to 5 (*totally agree*). The scale was reliable (Cronbach's $\alpha = .95$).

Need Frustration in Response to the Vignettes

Twelve items were adopted to evaluate how maternal need frustration was perceived in response to the vignettes. Four items each measured either autonomy frustration (e.g., “If my mother reacted this way, I would feel obligated to do certain things.”), relatedness frustration (e.g., “If my mother reacted this way, I would feel rejected by my mother.”), or competence frustration (e.g., “If my mother reacted this way, I would feel insecure about my skills”). The need frustration measure is based on the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015) and was adapted by Van Petegem et al. (2015, 2017) to fit the situation in the vignettes. Respondents were asked to what extent they agreed with statements on a Likert scale from 1 (*totally disagree*) to 5 (*totally agree*). The scale was reliable (Cronbach’s $\alpha = .95$).

Relevance, Credibility and Frequency of the Vignettes

Four items, adopted from Chen et al. (2016), were included to ensure the relevance (“How relevant is the situation as such without the reaction of the mother?”), credibility (“How believable is the situation as such without the reaction of the mother?”), and frequency (“My mother never reacts like this” and “Do you think individuals your age ever experience such a situation?”) of the vignettes. The items were rated on a seven-point Likert scale from 1 (*Not relevant at all; not believable at all; never; completely disagree*) to 7 (*very relevant; very believable; frequently; completely agree*).

Plan of Analyses

IBM SPSS Statistics (Version 29) was employed for the data analyses. First, descriptive statistics and correlations were obtained. Next, a MANCOVA was conducted to investigate the relations between the background variables and the outcome variable. Finally, model 2 of the PROCESS macro (v 4.2) by Hayes (2021) was used to test the moderation model. The dependent variable in this context was need frustration, and the independent

variables were maternal guilt-induction and autonomy support. Independent self-construals and interdependent self-construals were examined as two independent moderators.

Results

Preliminary Analyses

First, the characteristics of the situation, as described in the vignettes, were examined. Participants rated the vignettes' (without the mother's response) as moderately relevant ($M = 4.67$, $SD = 1.71$), moderately believable ($M = 5.13$, $SD = 1.67$) and common ($M = 5.69$, $SD = 1.41$). Moreover, the assumptions concerning multicollinearity, homoscedasticity, normality, and linearity were examined. No violations were found.

Next, descriptive statistics and Pearson's correlations were examined, as displayed in Table 1. Guilt-induction was strongly and positively related to need frustration in both conditions, whereas autonomy support showed a moderate negative relation with need frustration in both conditions. Moreover, the correlations of independent and interdependent self-construals with guilt-induction, autonomy support and need frustration were low and partly significant in both conditions.

Table 1

Means, Standard Deviations, and Pearson Correlations Regarding the Study Variables

	<i>M (SD)</i>	<i>M (SD)</i>					
	<i>GI</i>	<i>AS</i>	1	2	3	4	5
1. Guilt-induction	4.15 (0.78)	1.90 (0.83)	-	-.55**	.66**	-.09	.02
2. Autonomy support	2.04 (1.05)	4.21 (0.83)	-.38**	-	-.49**	.16**	.08
3. Need frustration	3.86 (0.76)	2.20 (0.87)	.75**	-.42**	-	-.15**	.001
4. Independent SC	4.93 (0.71)	4.95 (0.81)	.10	.15*	.01	-	.03
5. Interdependent SC	4.68 (0.70)	4.61 (0.72)	.15*	.12	.13	.04	-

Note. GI = guilt-induction condition ($n = 281$); AS = autonomy support condition ($n = 133$); Independent SC = independent self-construal; Interdependent SC = interdependent self-construal.

Correlations for the guilt-induction condition are displayed above the diagonal; correlations for the autonomy support condition are displayed below the diagonal.

* $p < .05$; ** $p < .01$.

Furthermore, a MANCOVA was conducted to examine the relations between the background and outcome variable (i.e., need frustration). No significant effects of gender (Wilk's $\Lambda = .99$, $F(5, 401) = 1.16$, $p = .33$), age (Wilk's $\Lambda = .98$, $F(5, 401) = 1.76$, $p = .12$), education (Wilk's $\Lambda = .99$, $F(5, 401) = 1.24$, $p = .29$), marital status (Wilk's $\Lambda = .99$, $F(5, 401) = 0.58$, $p = .71$), job status (Wilk's $\Lambda = .98$, $F(5, 401) = 1.47$, $p = .20$), and country of origin (Wilk's $\Lambda = .97$, $F(5, 401) = 2.13$, $p = .06$) were found.

Initially, the dataset consisted of three conditions: guilt-induction (high warmth), guilt-induction (low warmth), and autonomy support. Since this analysis did not examine warmth, the two guilt-induction conditions were combined into one condition. The outcome variable (i.e., need frustration) did not show a significant difference between the two groups, with $t(272.29) = -1.15$, $p = .25$.

Primary Analyses

To test the hypotheses, a double moderation model (Model 2) of the additional macro PROCESS was applied two times (Hayes, 2021), first with guilt-induction and second with autonomy support as the predictor variable and need frustration as the outcome variable. Due to SPSS's default listwise deletion, these analyses were conducted with $n = 414$ participants. The first analysis showed a significant main effect of maternal guilt-induction on need frustration at $p < .001$, which aligns with Hypothesis 1a. The main and interaction effects of

both independent self-construal and interdependent self-construal on the conditions were insignificant. The overall model was statistically significant with $R^2 = .74$, $F(5, 408) = 226.89$, $p < .001$.

The second analysis showed a significant main effect from maternal autonomy support to need frustration, at $p < .001$, which aligns with Hypothesis 1b. The interaction effects of both independent self-construal and interdependent self-construal were not significant. Moreover, the main effect of interdependent self-construal was significant, whereas no significant main effect for independent self-construal was found. The regression was statistically significant with $R^2 = .55$, $F(5, 408) = 98.82$, $p < .001$. Hypothesis 2a, 2b and 3 will be rejected, as the results suggest a non-moderation of self-construals. Table 2 below illustrates the results.

Table 2

Regression Analysis Results for Guilt-Induction, Autonomy Support and Independent and Interdependent Self-Construal

Model	Predictor	<i>B</i>	<i>SE</i>	<i>t</i>	LLCI	ULCI	<i>p</i>
1	(Constant)	3.33	.03	117.01	3.27	3.39	<.001**
	Guilt-induction	.72	.02	33.47	.68	.76	<.001**
	Independent SC	-.08	.04	-2.02	-.15	-.001	.04
	Interdependent SC	.001	.04	.07	-.08	.08	.94
	GI x independent SC	-.01	.03	-.52	-.07	.04	.60
	GI x interdependent SC	.01	.03	.18	-.06	.07	.86
2	(Constant)	3.32	.04	89.05	3.25	3.40	<.001**
	Autonomy support	-.59	.03	-22.04	-.64	-.53	<.001**
	Independent SC	.02	.05	.33	-.08	.12	.74

Interdependent SC	.14	.05	2.58	.03	.24	.01*
AS x independent SC	.04	.04	1.12	-.03	.11	.26
AS x interdependent SC	.03	.04	.80	-.04	.10	.43

Note. GI = guilt-induction; AS = autonomy support; independent SC = independent self-construal; interdependent SC = interdependent self-construal

$p^* < .05$; $**p < .01$.

Discussion

This study explored the effect of a guilt-inducing and autonomy-promoting parenting style on need frustration and how culturally shaped self-perception moderated these. A positive relation between parental guilt-induction and need frustration as well as a negative relation between autonomy support and need frustration was predicted. Previous research found a negative causal link between guilt-induction and need frustration (Chen et al., 2016) and a positive link between autonomy support and need satisfaction (Grolnick et al., 1997). This study also investigated the influence of culture on these relations, using independent and interdependent self-construal as moderators.

As predicted, maternal guilt-induction was a significant and causal predictor of need frustration (Hypothesis 1a). Moreover, autonomy support indeed showed a negative predictive relation to need frustration (Hypothesis 1b). Contrary to prior expectations, neither independent nor interdependent self-construal strengthened or weakened the relations between guilt-induction and need frustration and between autonomy support and need frustration (Hypothesis 2a, 2b and 3). In short, the relations between the predictor variables (i.e., guilt-induction and autonomy support) and the outcome variable need frustration were significant, whereby no moderation of self-construal was found.

Theoretical Implications

The present study replicated previous research findings, stating that guilt-inducing parenting predicts frustration of needs (e.g., Chen et al., 2015, 2016). Research suggests that parental responses towards their offspring's basic psychological needs (i.e., autonomy, competence, and relatedness) have universal effects across developmental phases and cultures (Chirkov & Ryan, 2001; Joussemet et al., 2008; Soenens et al., 2017). Furthermore, it is known that guilt-inducing parental behaviour has a direct association with ill-being (e.g., stress, interpersonal problems and eating disorder symptoms) through the frustration of basic psychological needs, as conceptualized in SDT (Ryan & Deci, 2000; Soenens et al., 2017; Van der Kaap-Deeder et al., 2017; Vansteenkiste & Ryan, 2013). In contrast to Baumeister (1998), who argues that guilt-induction can also be a positive phenomenon, the reasons are strong to believe that guilt-induction is harmful in the first place.

Autonomy support did not predict need frustration, but on the contrary anticipated that need frustration will be prevented. While guilt-induction is found to threaten basic psychological needs, autonomy support promotes well-being by having one's needs met (Lataster et al., 2022). Previous research found a positive relation between autonomy support and need satisfaction (Ferguson et al., 2011; Van der Kaap-Deeder et al., 2017). However, a lack of need satisfaction does not equal need frustration; thus, both were treated distinctively (Van der Kaap-Deeder et al., 2017; Vansteenkiste & Ryan, 2013). No other study has examined the inverse relation between autonomy support and need frustration so far.

Given the previous findings, it is not surprising that guilt-induction predicts need frustration and that autonomy support prevents need frustration. However, seeing no effect of self-construal is an unexpected finding and contradictory to previous research. The findings of this study challenge Markus and Kitayama's model (1991) and emphasize that it may not be cross-nationally generalizable, despite its popularity and seemingly evidence-based nature. Matsumoto (1999) reviewed the concept of independent and interdependent self-construal

based on three sources and found little valid evidence for its theory. This criticism and uncertainty about the validity of Markus and Kitayama's concept of self-construal is a possible explanation for why no effect of self-construal was found.

Another explanatory approach to the absent moderation effect of self-construal is that self-construal may be closely connected to basic psychological needs. When looking into the dimensions of self-construal, it shows that independent self-construal is characterized by autonomy and separation, and interdependent self-construal is characterized by heteronomy and relatedness (Kagitcibasi, 2005). As two of the three basic psychological needs are characterizing self-construal, it seems plausible that independent and interdependent self-construal may not be an indicator for culture as independent and interdependent self-construal are universal and to some degree present in all individuals simultaneously (Kolstad & Horpestad, 2009).

Lastly, intercultural differences in need frustration may exist due to individual differences or interpersonal differences in parenting caused by cultural values rather than self-construal. In any case, the finding that self-construal alone has no significant effect does not rule out the possibility that culture nevertheless has a notable influence. To obtain conclusive results, more factors of culture need to be investigated. Consequently, further research must be conducted to improve our understanding of these interrelations.

Strengths, Limitations and Future Research

This study has several strengths. First, many participants from multiple countries were recruited, which suggests a high ecological validity of the findings. Second, the experimental design allowed for drawing causal inferences. Third, the measures used for the variables were known to be reliable and valid prior to their use.

Despite its strengths, this research bears several limitations, implying that current results must be interpreted cautiously. First, the sample consisted mainly of college students,

which does not represent the whole population of young adults and is therefore subject to bias. An eligible way of replicating this study is to add more diversity, for example by including participants of a different socioeconomic status, education or include younger age groups. Additionally, as mentioned before, more cultural measures (e.g., Hofstede's five dimensions of culture; Hofstede, 1984) and additional inter-country comparisons, especially in understudied populations, are suggested to provide more insightful and conclusive intercultural insights (Yoo et al., 2011).

A second limitation is that the data were collected entirely by self-report. Responses may be influenced by social desirability or reduced motivation or attention due to the questionnaire length and lack of monetary compensation. In future research, additional attention checks could reduce the low attention bias (Shamon & Berning, 2020). It is suggested to instead of surveys, gather qualitative data through longitudinal and in-depth interviews (Matsumoto, 1999).

Third, due to the absence of a native language translation of the questionnaire provided to Bulgarian participants, there may have been comprehension barriers or misunderstandings. To avoid possible language-based biases, future research should ensure consistent and accurate translations into the participants' native language.

A last limitation is that the focus was merely on the maternal parenting style, whereas the father's role was entirely left out. Previous research outlined that paternal psychological control only has a slightly lower impact on the child's negative emotions than maternal psychological control (Aunola et al., 2013), and is therefore similarly influential. For future research in this field, it is suggested that the parenting of both parents is considered.

Practical Implications

The findings have several practical implications. Regarding guilt-induction's negative impact on an individual's basic psychological needs and the observation that autonomy-

supportive parenting has the opposite effect, a promising practical implication is promoting autonomy-supportive parenting. Froiland (2015) found that daily parental autonomy-supportive communication has strong positive effects, such as higher intrinsic motivation in multiple areas of life. One way to educate and implement this playfully is through educational games, which have been shown to be effective and enjoyable (Froiland, 2015).

Furthermore, Froiland (2015) stated that parents often unknowingly used controlling techniques. This suggests implementing easily accessible counselling and mentoring initiatives to educate parents about the pressuring nature and negative consequences of a controlling parenting approach and signs to recognize such. These interventions can occur in easily accessible family programs or offers from the mental health care system through informative flyers or supportive contact points (i.e., an advice hotline). Likewise, affected children and young adults should have access to trained mental health care professionals who can help them identify problems, provide support and familiarize them with healthy and adaptive coping strategies. Accordingly, these practical implications must be applied culturally sensitively and be easily accessible for refugees, as a group that is especially at risk and more improbable to seek professional support (Byrow et al., 2019; Tomasi et al., 2022).

Conclusion

In sum, parents must avoid using guilt-induction to control or manipulate their offspring's behavior, regardless of their cultural background. Instead, adopting an autonomy-supportive parenting style is suggested, which promotes that basic psychological needs are met, supporting positive development and well-being. A key to prevent the consequences caused by harmful parenting behaviour is by raising parents' awareness and educating them on autonomy-supportive interactions with their children. Overall, it is essential to ensure that psychological support is readily available to affected children, adolescents, and young adults.

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Appendix A – Informed Consent

A study on the sources and outcomes of maternal guilt-induction across different cultures

Dear participant,

first of all, an incredible thanks for your possible participation in this research!

What it is about

The main aim of this study is to examine sources and effects of maternal guilt-induction. Specifically, we want to examine different ways in which mothers can communicate with their adult children. We will focus on questions such as: “Why do individuals interpret a communication style in a certain way?”, “What are the effects of different communication styles by mothers?”, and also “Are their cultural differences in these relations?”. This research is conducted by researchers and students from the department of Clinical Psychology at Utrecht University (in collaboration with the Norwegian University of Science and Technology). The supervisor of this research is an associate professor at the Norwegian University of Science and Technology who has been appointed by Utrecht University to supervise this research. This research can be very informative to enhance theoretical development and to improve the quality of psychological treatments. The data of this research will be used in several master theses and could eventually lead to a publication of a scientific article.

How the data are collected and what we invite you to do

We will first ask some background information such as gender, age, and educational level. Furthermore, we ask you to fill out a couple of questionnaires concerning sources (e.g., (un)healthy emotion regulation) and outcomes (e.g., feelings of autonomy) of how individuals perceive mothers’ communication style. Participation will take about 15-20 minutes.

Possible advantages or disadvantages

We consider filling out these questionnaires not to be burdensome or emotionally stressful. In case the themes do evoke unpleasant feelings, you can contact the research team (see below), your general practitioner or www.deluisterlijn.nl for an (anonymous) telephone or chat.

Voluntary participation

Participation is voluntary and can be terminated at any time, without giving reasons and without consequences. The data that were collected up to that point may be used, unless you explicitly state otherwise.

Reward

There will be no reward for participation in the study.

Personal data & Privacy

The data will be treated as confidential and will be anonymized in accordance with the highest safety regulations. Only the researchers involved have access to the data. The little personal information gathered (e.g., age, gender, ...) cannot be traced back to you as a person. Data will be stored for at least 10 years in accordance with the guidelines provided by the VSNU Association of Universities in the Netherlands (www.vsnu.nl).

For more information about privacy, we refer to the website the Authority for Personal Data:

<https://autoriteitpersoonsgegevens.nl/nl/onderwerpen/avg-europese-privacywetgeving>

Independent contact and complaints officer

If you have any questions or comments about the study, you can contact the researchers (see below). If you have an official complaint about the study, you can send an email to the complaints officer at klachtenfunctionaris-fetcsowet@uu.nl.

If, after reading this information letter, you decide to take part in the research, we kindly ask you to give your consent below.

With kind regards,

Luna Preuss (e.l.preuss@students.uu.nl)

Lilly Kühn (l.s.kuhn@students.uu.nl)

Melina Malea (m.m.malea@students.uu.nl)

Ezgi Ceren Pınarbaşı (e.c.pinarbasi@students.uu.nl)

Jolene van der Kaap-Deeder, associate professor and supervisor of this research

(jolene.van.der.kaap-deeder@ntnu.no; j.j.h.vanderkaap-deeder@uu.nl)

- I hereby declare that I have read the information letter about “A study on the sources and outcomes of maternal guilt-induction across different cultures”. I am sufficiently informed and want to take part in this study.

Appendix B - Vignettes

One day, you visit your mother and inform her about a lower grade than usual for an important course. Because initially, you thought the test went fairly well, you expected good points, and this is also what you told your mother. When you now inform your mother about your low grade, here is what she says...

Autonomy-supportive scenario

“Aw, I know you had a good feeling about it, and you probably expected to do better. You tried your best, so I can imagine this grade is not what you hoped for. Why do you think you got this result? It happens... sometimes you do better on a test than other times. Ok, I know it didn't go well this time, but you can try to learn from what went wrong. Perhaps you can try to see it as a challenge and think about other ways that you can try to learn the study material? If you need help, you can always rely on me.”

Guilt-inducing scenario (high warmth)

Your mother sits down next to you and puts her arm around you. She says: *“You gave me hope that your result would be good, so how can I be anything but sad and disappointed with this result? Don't you feel guilty about this inferior score? You know I really care for you, but you probably didn't put much effort into studying for the test. You know, I try really hard to take care of you and this family.”* Your mother smiles at you and before she walks away, she gives you a hug and adds: *“I do all of this for you, so that you can study hard and get good grades. Is this poor result the thanks I get for my hard work? Please, I beg you, try not to disappoint me like this again. Study hard for your next test so that you don't get a bad grade.”*

Guilt-inducing scenario (low warmth)

Your mother sits across from you. She says: *"You gave me hope that your result would be good, so how can I be anything but sad and disappointed with this result? Don't you feel guilty about this inferior score? I hate to reiterate again and again how much I care for you. You probably didn't put much effort into studying for the test. You know, I try really hard to take care of you and this family."* Your mother stares at you, and as she is walking away, she adds: *"I do all of this for you, so that you can study hard and get good grades. Is this poor result the thanks I get for my hard work? Please, I beg you, try not to disappoint me like this again. Study hard for your next test so that you don't get a bad grade."*

Appendix C – Survey

Are you at least 18 years old?

- No
 - Yes
-

What is your age: _____ years

What is your gender?

- Female
- Male
- Non-binary
- Do not want to disclose

What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

- Less than a high school diploma
- High school graduate or equivalent
- Trade/technical/vocational training
- Bachelor's degree
- Master's degree
- Doctorate degree
- Other, please indicate _____

What is your marital status?

- Single, never married
- Partner (not married)
- Married

- Separated or divorced
- Widow(er)

Do you have a job?

- Yes, fulltime
- Yes, parttime
- No

Are you a student?

- Yes
- No

If you are a student: Which study program do you follow?

How I See myself

This is a questionnaire that measures a variety of feelings and behaviors in various situations.

Listed below are a number of statements. Read each one as if it referred to you. Circle the response that best matches your agreement or disagreement.

1. I enjoy being unique and different from others in many respects. (SCSind1)
2. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am. (SCSind2)
3. Even when I strongly disagree with group members, I avoid an argument. (SCSinter1)
4. I have respect for the authority figures with whom I interact. (SCSinter2)
5. I respect people who are modest about themselves. (SCSinter3)
6. I will sacrifice my self-interest for the benefit of the group I am in. (SCSinter4)
7. I'd rather say "No" directly, than risk being misunderstood. (SCSind3)

8. Having a lively imagination is important to me. (SCS indep4)
 9. I should take into consideration my parents' advice when making education/career plans. (SCS inter5)
 10. I prefer to be direct and forthright when dealing with people I've just met. (SCS indep5)
 11. I am comfortable with being singled out for praise or rewards. (SCS indep6)
 12. If my brother or sister fails, I feel responsible. (SCS inter6)
 13. I often have the feeling that my relationships with others are more important than my own accomplishments. (SCS inter7)
 14. Speaking up during a class (or a meeting) is not a problem for me. (SCS indep7)
 15. I would offer my seat in a bus to my professor (or my boss). (SCS inter8)
 16. My happiness depends on the happiness of those around me. (SCS inter9)
 17. I value being in good health above everything. (SCS indep8)
 18. I will stay in a group if they need me, even when I am not happy with the group. (SCS inter10)
 19. It is important to me to respect decisions made by the group. (SCS inter11)
 20. My personal identity, independent of others, is very important to me. (SCS indep9)
 21. It is important for me to maintain harmony within my group. (SCS inter12)
 22. I am the same person at home that I am at school (or work). (SCS indep10)
 23. Being able to take care of myself is a primary concern for me. (SCS indep11)
 24. I act the same way no matter who I am with. (SCS indep12)
-

Part 2 - Situational questionnaires

The next set of questionnaires relate specifically to the situation described below. Therefore, read the scenario thoroughly, and fill in the following questionnaires with this situation in mind. Imagine the following situation:

[...]

Note: Here, the participant is presented with one of the following scenarios: Guilt-induction (high warmth), guilt-induction (low warmth) or autonomy support (see Appendix B).

My response to the vignette

Below you will find several statements about how you would feel when your mother would react in a way as stated in the situation. Indicate a number between 1 (*completely disagree*) to 5 (*completely agree*) after each statement.

If my mother reacted this way, I would feel like she...

1. Insists upon doing things her way. (VigGI1)
2. Is not very sensitive to my needs. (VigGI2)
3. Is disappointed with me. (VigGI3)
4. Is trying to change how I see things. (VigGI4)
5. Tells me I am not as good as she was growing up. (VigGI5)
6. Acts disappointed when I misbehave. (VigGI6)
7. Makes me feel guilty. (VigGI7)
8. Uses guilt to control me. (VigGI8)
9. Tells me that she gets embarrassed when I do not meet her expectations. (VigGI9)
10. Makes me feel guilty when I do not meet her expectations. (VigGI10)
11. Makes me aware of disappointment. (VigGI11)
12. Believes I should be aware of her sacrifices. (VigGI12)

13. Expects me to be grateful and appreciative. (VigGI13)
 14. Says if I really cared for her, I would not do the things that cause her to worry.
(VigGI14)
 15. Tells me of all the things that she has done for me. (VigGI15)
 16. Allows me to make my own plans for the things I do. (VigAS1)
 17. Permits me to choose what to do, whenever possible. (VigAS2)
 18. Is willing to consider my point of view. (VigAS3)
 19. Allows me to decide things for myself. (VigAS4)
 20. My mother never reacts like this. (VigFreq)
-

Below you will find several statements about how you would feel when your mother would react in a way as stated in the situation. Indicate a number between 1 (*totally disagree*) to 5 (*totally agree*) after each statement.

If my mother reacted this way, I would ...

1. ... feel obligated to do certain things. (Vig_AF1)
2. ... feel compelled to do things I wouldn't choose to do myself. (Vig_AF2)
3. ... feel excluded by my mother. (Vig_RF1)
4. ... have the impression that my mother hates me. (Vig_RF2)
5. ... feel insecure about my skills. (Vig_CF1)
6. ... feel disappointed with my performance. (Vig_CF2)
7. ... feel obliged to do many things. (Vig_AF3)
8. ... experience this as yet another obligation. (Vig_AF4)
9. ... feel like the relationship is just superficial. (Vig_RF3)
10. ... feel rejected by my mother. (Vig_RF4)
11. ... feel like a failure because of the mistakes I make. (Vig_CF3)

12. ... feel overwhelmed with things I don't feel capable of. (Vig_CF4)

Please, now read the situation again:

One day you visit your mother and inform her about a lower grade than usual for an important course. Because initially, you thought the test went fairly well, you expected good points, and this is also what you told your mother.

1. How relevant is the situation as such (without the reaction of the mother): (VigRelev)

1 2 3 4 5 6 7

Not relevant at all

Very relevant

2. How believable is the situation as such (without the reaction of the mother):

(VigBeliev)

1 2 3 4 5 6 7

Not believable at all

Very believable

3. Do you think individuals your age ever experience such a situation? (VigCommon)

1 2 3 4 5 6 7

Never

Frequently

Thank you for your participation!