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Self-differentiation and self-concealment: serial mediation by self-compassion and intolerance of uncertainty

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ABSTRACT

Objectives: Self-concealment is an important issue that hinders progress in the psychological help process. Considering its negative consequences in the field of mental health, it is important to address its relationship with risk factors and protective factors. Therefore, the present study examined whether self-differentiation was related to self-concealment and whether this relationship was mediated by self-compassion and intolerance of uncertainty.

Method: The participants in this study consisted of 300 university students, 183 females and 117 males, whose ages ranged between 18 and 42. All measurement tools used in the research were applied anonymously.

Results: Meditation analysis results showed that in the hypothetical model, serial multiple mediation of self-compassion and intolerance of uncertainty is statistically significant and explains 37% of the variance in self-concealment. In addition, the single mediation effect of self-compassion was found to be higher than the multiple-serial mediation effect of self-compassion and intolerance of uncertainty together. The findings were discussed in the light of the literature.

Conclusions: This study may be a resource to the mental health professionals at the stage of planning protective and preventive intervention studies.

KEY POINTS

What is already known about this topic:

(1) Self-concealment is an important problem that prevents developing healthy interpersonal relationships or finding solutions to mental problems.
(2) Educational and developmental psychologists try to understand the risk factors and protective factors of self-concealment.
(3) It is hoped that understanding the risks and protective factors of self-concealment will result in more positive mental health indicators by providing self-awareness for those suffering from this issue and guiding intervention work for mental health professionals.

What this topic adds:

(1) In this study, self-differentiation from Bowen family therapy and self-compassion from the Buddhist tradition are considered as protective factors of self-concealment as concepts that include positive attitudes towards help seeking.
(2) This research is original in that it is the first study that takes these three variables together and examines the mediation of self-compassion in the relationship between self-differentiation and self-concealment.
(3) Intolerance of uncertainty, which goes with the cycle of self-critical thinking may be as a risk factor for self-concealment, this is the first study to examine its mediating role in the relationship between self-differentiation and self-concealment.

Introduction

From years ago, to now, researchers have sought an answer to the question of why individuals consciously try to hide their true feelings, pain, or information about themselves, even from the people who need to know the most. Thus, self-concealment has become an important issue in psychotherapy and personality psychology (Freud, 1958; Pennebaker, 1989; Wang et al., 2014).

Self-concealment is generally seen as a notably decisive tendency to consciously hide personal knowledge that the person perceives as upsetting, negative or embarrassing from others (Larson & Chastain, 1990). According to emotional inhibition model, self-concealment may include the emotional inhibition feature, which is thought to sustain and increase psychological distress (Lane & Wegner, 1995). Intentional attempts to hide personal knowledge from others can increase the negativeness of this knowledge and then

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may require extra control and blocking attempts that worsen the situation (Masuda et al., 2010). Consequently, the probability of developing obsessive and negative thoughts may increase with a cyclical confidentiality attempt and the process of dealing with unwanted personal secrets (Morita, 1998). Therefore, maladaptive strategies are likely to maintain and increase psychological distress, in other words, effective use of emotion, cognitive and behaviour regulation strategies are important in determining how we will respond to internal and external stress factors (Masuda et al., 2017; Mennin, Ellard, Fresco, & Gross, 2013).

Self-concealment has also a negative effect on commitment to others because not disclosing important personal information prevents the individual from establishing, strengthening, and maintaining close relationships with other people, as a result from using maladaptive strategies (Chaudoir & Fisher, 2010; Hagger & Riley, 2019). Consequently, it can be said that self-concealment leads to both personal and interpersonal problems.

Self-differentiation and self-concealment

In the present study, self-differentiation is discussed as a protective factor related to emotion, thought and behaviour regulation difficulties, personal and interpersonal problems, negative attitudes towards help-seeking as in self-concealment. Self-differentiation, a concept from the Bowen (1978) theory of family therapy refers to the degree to which individuals balance intimacy and autonomy at the interpersonal level and their emotions and thoughts at the intrapsychic level. Adaptive emotion regulation processes, such as emotional awareness, participation in emotional life, distinguishing emotions from thoughts, and logical reasoning in the face of situational demands, contain the intrapsychic dimension of self-differentiation. Maintaining close relationships with other important people, especially with one's family while keeping autonomy, also defines self-differentiation at the interpersonal level (Kerr & Bowen, 1988).

Individuals with high levels of self-differentiation, are not prone to emotional reactivity in emotionally intense situations and can think clearly, protect their beliefs and opinions in interpersonal disputes, and prevent fusion (Kerr, 1984). While well-differentiated individuals have a great deal of socially and relationally effective coping styles, poorly differentiated individuals fail to effectively deal with stressful situations and are exposed to social anxiety and other psychological symptoms (Kerr & Bowen, 1988). In addition,

recent research focuses on the role of self-differentiation on help-seeking attitude (Lampis et al., 2019; Mokua, 2007).

Mokua (2007) found negative correlation between self-concealment and self-differentiation in psychological help-seeking attitude and argued that self-concealment can be determined by the level of self-differentiation. In addition, a study has revealed a positive relationship between self-disclosure, which is the opposite of self-concealment, and self-differentiation (Zhu, 2019). Zhu (2019) found that high level of self-differentiation has a positive predictive effect on high level of self-disclosure.

Well-differentiated individuals are closely connected to themselves with a more accurate and detailed cognition about the inner self, as they have emotional awareness and adaptive coping strategies in the intrapsychic dimension (Murdock & Gore, 2004) and this provides a basis for a high level of interpersonal self-differentiation (Skowron et al., 2009). Therefore, these individuals tend to have a higher level of self-disclosure (Zhu, 2019). In contrast, individuals who have low levels of self-differentiation reject or ignore problems, that is, they use an avoidant style and, focus on reactive style to reduce negative emotions such as stress (Murdock & Gore, 2004), and they are likely to experience intrapsychic and interpersonal problems, and to exhibit high level of self-concealment. Consequently, the studies support the predictive role of self-differentiation on self-concealment from the variables discussed in this study. Considering the relationship between these variables, the following hypothesis was proposed:

Hypothesis 1: *Self-differentiation predicts self-concealment negatively and significantly.*

Self-differentiation, self-compassion and self-concealment

In this study, self-compassion is considered as a psychological concept that will explain the relationship between self-differentiation and self-concealment. Self-compassion of Buddhist origin is a new psychological phenomenon that is believed to support well-being (Grevenstein et al., 2016). Mindfulness, stems from the Buddhist tradition like self-compassion, is defined as the approach of the individuals to their emotions, thoughts, and distress with an accepting attitude without judgement (Keng et al., 2011). While expanding mindfulness, self-compassion is not only open to one's own suffering

but also a tendency to positively face life difficulties (Neff, 2003a).

Self-compassion is related to decreased intolerance of uncertainty (Mantzios et al., 2015; Tang, 2019); self-differentiation (Foye, 2017) and positive attitude towards psychological help-seeking (Dschaak et al., 2019). As far as is known, there is no study directly focusing on the relationship between self-compassion and self-concealment. However, there are research results that indirectly include the link between self-compassion and self-concealment. For example, Dschaak et al. (2019) pointed out that self-compassion has a positive role in help-seeking, while they consider self-concealment as a construct that prevents help-seeking. In addition, three reversed sub-dimensions of self-compassion (self-judgement, isolation and over-identification) are considered as constructs that positively predict self-concealment (Dschaak et al., 2019; Pyle & Morrison, 2014), while the other three positive sub-dimensions (self-kindness, common humanity and mindfulness) is negatively associated with self-concealment (Ashley, 2016; Dschaak et al., 2019; Dupasquier et al., 2018; Masuda et al., 2017).

Self-compassion which can be seen as a useful emotion regulation strategy (Neff, 2003a; Trompetter et al., 2017) is likely to be a strong predictor of self-concealment, given that it allows the individuals to treat themselves socially in a distressed situation, without criticised themselves and fear of being negative evaluation by others and without isolating themselves (Neff, 2003b). In other words, self-acceptance, which is at the core of self-compassion, prevents self-blame, self-critical thoughts, shame, and the perception that personal information is negative and that sharing them with others will lead to negative evaluation (Dschaak et al., 2019). Thus, being in peace with oneself by favour of self-compassion may provide to prevent self-concealment. Furthermore, considering that seeing our experiences as part of common human experiences supports the feeling of connectedness (Neff, 2003a), it can be said that self-compassion will reduce the negative feelings behind self-concealment. Indeed, Dupasquier et al. (2018) provides evidence that self-compassion can reduce negative consequences of the perceived risk of self-disclosure (i.e., self-concealment) and suggests that self-compassion-based interventions can reduce self-concealment.

A research finding directly addressing the relationship between self-differentiation and self-compassion has been reached (Foye, 2017). In her study based on the Bowen family systems theory, Foye (2017) concluded that self-differentiation and self-compassion are positively associated with each other as protective factors that reduce psychological distress. In addition, it is suggested that family of origin experiences originating from Bowen family systems theory and mediating self-differentiation predict the increase in self-compassion (Foye, 2017; Knapp et al., 2015). Furthermore, Buddhism centres on the role of self-concept and attitudes in building self-compassion (Bennett-Goleman, 2001), therefore, self-differentiation which is the ability to interact with other people without losing one's sense of self and not to be emotionally reactive even if they are under pressure by others may have impact on self-compassion. By strengthening self-acceptance, self-compassion provides balanced awareness between emotions and thoughts and enhances individuals' ability to touch their inner self and use this knowledge to better communicate with themselves and other people (Mowlaie et al., 2017; Neff, 2003a). Thus, it can be said that self-compassion is a personality trait found in well-differentiated individuals and it can be thought that both self-differentiation and self-compassion negatively predict self-concealment, which is tendency to escape from communication with oneself and others and hide personal information. Considering the relationships between self-differentiation, self-compassion and self-concealment, the following hypothesis was proposed:

Hypothesis 2: *Self-compassion mediates the relationship between the self-differentiation and self-concealment.*

Self-differentiation, intolerance of uncertainty and self-concealment

In this study, another construct whose mediating role was examined is intolerance of uncertainty. IU, which can be considered as a personality trait, is the tendency to perceive uncertain situations as threats, to interpret, react and to have negative expectations about the future (Dugas & Robichaud, 2007). IU is an important vulnerability and transdiagnostic factor contributing to various psychopathologies (Boswell et al., 2013). Although everyone experiences uncertainty, it becomes problematic when uncertainty is very frequent and difficult to manage and self-critical thoughts ("I can screw it up", I don't know how to cope with this situation') are often associated with uncertainty (Mantzios et al., 2015). Individuals

experience a vicious circle when they try to control such thoughts (Wegner, 1989).

When the relevant literature is examined, no research addressing the relationship between IU and self-concealment was found. However, as in self-concealment (Flett & Hewitt, 2002; Kawamura & Frost, 2004; Masuda et al., 2011; Mendoza et al., 2018), IU is also linked with social anxiety, perfectionism, fear of disapproval by others, and cognitive avoidance (Boelen & Reijntjes, 2009; Buhr & Dugas, 2006; Shikatani et al., 2016). In addition, in Robichaud (2013) cognitive behavioural therapy model based on intolerance of uncertainty, the negative thought cycle that starts with the question "what if?" leads to anxiety. Then, due to the uncertain situation, which one perceives as negative and distressing, the person takes assurance-seeking behaviours such as avoiding commitment to others and putting social distance. In other words, the self-critical thought cycle seen in individuals with an intolerance of uncertainty plays a role in preventing one from opening to others for fear of negative evaluation by others.

Paprocki (2015) mentions that there is a negative relationship between self-differentiation and intolerance of uncertainty and reveals that while intolerance of uncertainty predicts increase in reassurance-seeking behaviours, self-differentiation provides decrease in these behaviours. In addition, it is possible that individuals with intolerant of high level of uncertainty who are dependent on social approval, and with anxious attachment style, perceive people who are generally supportive as threatening, because of low level of self-differentiation (i.e., negative evaluation expectation; Moss, 2016). Moss (2016) argues that individuals who report high levels of self-concealment are vulnerable to criticism and other people's behaviour (as in intolerance of uncertainty) with low self-differentiation.

When individuals feel intolerance of uncertainty in their daily lives, it becomes difficult to consciously regulate their anxiety (Tang, 2019). Self-differentiation enables intellectual decision-making with the ability to regulate emotions even under uncertain conditions (Kerr & Bowen, 1988; Skowron & Dendy, 2004) and contributes to decrease anxiety level (Knauth & Skowron, 2004). Considering the relationships between self-differentiation, intolerance of uncertainty and self-concealment, the following hypothesis was proposed:

Hypothesis 3: *Intolerance of uncertainty mediates the relationship between the self-differentiation and self-concealment.*

Finally, in this study, intolerance of uncertainty and self-compassion are assumed as mediating variables that act in the opposite direction. Individuals with high self-compassion can control their emotions with positive emotion regulation skills and have a positive future orientation (Tang, 2019) because self-compassion minimises individuals' future suffering and enables proactive coping (Aspinwall, 2005). However, individuals with intolerance of uncertainty have negative expectations about the future, have self-critical thoughts and fears of negative evaluation by others, and use reactive coping strategies (Tang, 2019). Mantzios et al. (2015) state that self-critical thoughts may decrease with the acceptance of self-compassion.

The current study

Self-concealment is an important issue that is often addressed in personality psychology and psychotherapy and can lead to psychological distress and many negative mental health indicators without identifying the underlying causes. Self-concealment is a tendency to affect many areas of life, from establishing and maintaining close relationships to providing the highest level of benefit in psychotherapy. Furthermore, according to some research self-concealment seems to be more common in Asian countries having collectivist cultures (Kim et al., 2001; Masuda et al., 2010). Therefore, in Turkey, which is a country having largely collectivist cultural properties, it may be important to determine potential risk and protective factors of self-concealment. In addition, this study is the first to examine the mediator roles of self-compassion and intolerance of uncertainty in the relationship between self-differentiation and self-concealment.

Self-differentiation, which is a protective factor closely related to personal and interpersonal problems, is thought to be an important determinant of self-concealment. Self-compassion, which enables one to be connected with other people through self-acceptance, is also expected to mediate in this relationship in a protective way. However, it is expected that the intolerance of uncertainty, which is associated with self-critical thoughts and negative perceptions towards itself and may lead to avoidance and concealment behaviours (from others) with fear of negative evaluation by others, is expected to mediate negatively in this relationship.

Based on the theoretical and practical results above, the aim of the present study is to investigate relationship among self-differentiation, self-concealment, intolerance of uncertainty and self-compassion. The main assumption of the current study is that well-

differentiation individuals with more self-compassionate and tolerant of uncertainty, and that they would be able to communicate more effectively with themselves and other people, and their tendency to self-concealment would decrease.

Methods

Participants

The present study comprised 300 university students (183 females [61%] and 117 males [39%]) who were attending the Faculty of Education. The age ranged from 18 to 42, with a mean of 22.41 (SD = 3.96). Convenience sampling from a university in Turkey was used.

Materials

Differentiation of self inventory-revised (DSI-R)

DSI was developed by Skowron and Friedlander (1998) and revised by Skowron and Schmitt (2003) as DSI-R. The DSI-R was adapted to Turkish by Isık and Bulduk (2015). The scale includes 20 items (e.g., "I feel it's important to hear my parents" opinions before making decisions") and a six-point Likert ranging from 1 (strongly disagree) to 6 (strongly agree). High scores on the DSI-R indicate a high-level differentiation of self (Isık & Bulduk, 2015). As a result of CFA, it was seen that the fit values were at sufficient levels (χ^2/df = 1.51, GFI = .93, AGFI = .90, CFI = .93 and RMSEA = .046). The internal consistency reliability coefficient of the original form of the scale is .81 for the overall scale, and the reliability coefficient of the Turkish form is .80. In the present study, the Cronbach's alpha of the DSI-R was .73.

Self-concealment scale (SCS)

SCS was developed by Larson and Chastain (1990) and adapted to Turkish by Terzi et al. (2010). The scale contains 10 items (e.g., "There are lots of things about me that I keep to myself") and five-point Likert from 1 (strongly disagree) to 5 (strongly agree). A two-factor structure was obtained as a result of the factor analysis carried out in the development of the Original Self-Concealment Scale. However, since the second factor could not be interpreted and the first factor explained 65% of the general variance, the scale was accepted as one-dimensional (Larson & Chastain, 1990). In the Turkish version of the scale, the first factor explains 36% of the total variance and the second factor explains 17%. The common variance explained by the two factors is 54%, and the scale can be considered with one factor as well as two factors (Terzi et al., 2010). The internal consistency reliability coefficient of the original form of the scale was .83 and that of the Turkish form was.82. In the present study, the Cronbach's alpha of the SCS was .87.

Self-compassion scale (SCS)

The SCS (Neff, 2003a) includes 26 items (e.g., "When times are really difficult, I tend to be tough on myself") and five-point Likert from 1 (almost never) to 5 (almost always). The scale was adapted to Turkish by Deniz et al. (2008). In the study of the Turkish adaptation of the scale, Deniz et al. (2008) found that the scale did not fit for the six-factor structure as a result of the factor analysis they performed for construct validity (χ^2 = 1523.02 (df = 299, p < .01), (c2/df) = 5.09, RMSEA =.123, GFI =.692 and AGFI =.638). Then, as a result of the exploratory factor analysis, they removed two items with a total item correlation of less than .30 from the scale, and found that the remaining 24 items were loaded on a single factor. In short, they found that the 6-factor structure was not valid in the Turkish version of the scale, and the single-factor structure was valid. The internal consistency reliability coefficient for the Turkish form of the scale was calculated as .89. In the present study, the Cronbach's alpha of the scale was .90.

Intolerance of uncertainty scale (IUS)

The IUS was adapted to English by Buhr and Dugas (2002) and adapted to Turkish by Sari and Dag (2009). Turkish version of the scale consists 26 items (e.g., "Uncertainty makes me vulnerable, unhappy, or sad"). Responses to the IUS are assessed using a five-point Likert scale ranging from 1 (never describes me) to 5 (defines me completely). According to the factor analysis results of the Turkish version of the scale, it was decided to exclude it from the scale, since the fifth factor consisted of one item (10th item) and the item-total correlation was low (r = 0.29). Item 21 was also not included in any subscale. Thus, a 26-item and four-factor scale was obtained. These four factors explain 51% of the total variance. The reliability coefficient of the Turkish form of the IUS was calculated as .93 and found as .92 in this study.

Procedure and ethics

The study was approved by the researcher's university ethics committee (REF: 88,431,307–050.01.04-E. 19,687). The present study is carried out in accordance with the Declaration of Helsinki. Research data were collected by the researcher through web-based survey.

In the research, the volunteering of the participants and the confidentiality of their identities were ensured. The data collection process lasted approximately 30 minutes.

Statistical analysis

In the present study, Pearson product-moment correlation coefficient was used to determine the relationship between variables. For mediation analysis, an approach based on ordinary least squares regression and bootstrapping was utilised. Mahalanobis distance analysis was also used to determine whether there is an outlier in the dataset and, there were no extreme values in the data set that would negatively affect the analyses. Besides, kurtosis and skewness values were calculated to examine whether the data showed normal distribution or not. The acceptable range of kurtosis and skewness values is from -1 to $+1$ (Tabachnick & Fidell, 2013) and it can be said that the data show normal distribution when the following values are considered (self-differentiation: skewness .04, kurtosis .01; self-compassion: skewness $-.04$, kurtosis $-.23$; intolerance of uncertainty: skewness $-.28$, kurtosis $-.12$; self-concealment: skewness .22, kurtosis $-.44$).

A multiple mediation model, which involves "simultaneous mediation by multiple variables" (Preacher & Hayes, 2008, p. 880), was also used in the present study. Contrast testing was used to determine the specific indirect effects of variables and which mediator variable was stronger in the model. The Bootstrapping analyses of the study were conducted by Multiple Mediation Model 6 with SPSS macro-PROCESS (Hayes, 2017).

Results

Descriptive statistics and correlation values

Pearson's correlation coefficients were used to examine the relationships among the variables. The descriptive statistics and bivariate correlations among variables are presented in Table 1.

Bivariate correlations (Table 1) show that self-differentiation is positively related to self-compassion ($r = .67$, $p < .01$) and negatively related to intolerance of uncertainty ($r = -.46$, $p < .01$) and self-concealment ($r = -.53$, $p < .01$). Self-compassion is negatively related to intolerance of uncertainty ($r = -.49$, $p < .01$) and self-concealment ($r = -.52$, $p < .01$). Intolerance of uncertainty is positively related to self-concealment ($r = .46$, $p < .01$).

Mediation analysis

The findings for the serial mediating roles of intolerance of uncertainty and self-compassion in the relationship between self-differentiation and self-concealment are presented in Figure 1.
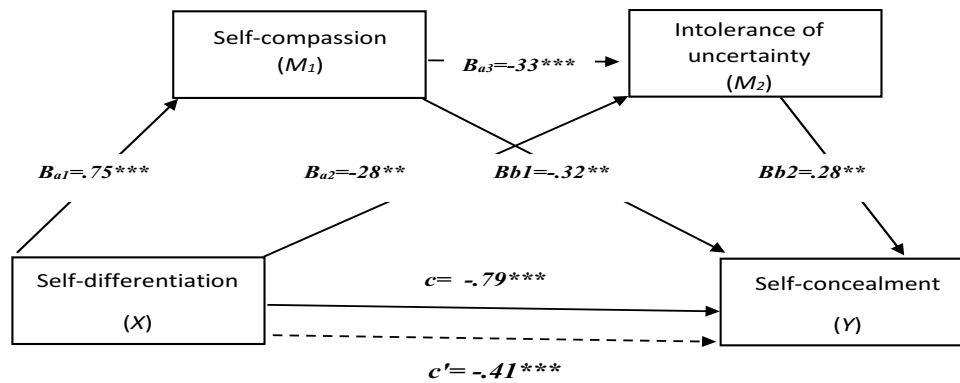
Figure 1 presents that the total effect of self-differentiation on self-concealment is statistically significant ($c = -.79$, SE $= .07$, $t = -10.81$, $p < .001$) (step 1). The direct effects of self-differentiation on self-compassion ($B = .75$, SE $= .05$, $t = 15.37$, $p < .001$) and intolerance of uncertainty ($B = -.28$, SE $= .08$, $t = -3.69$, $p < .01$) are statistically significant. The direct effect of self-compassion (the first mediator) on intolerance of uncertainty (the second mediator) ($B = -.33$, SE $= .07$, $t = -4.89$, $p < .001$) (step 2) and the direct effects of self-compassion ($B = -.32$, SE $= .09$, $t = -3.70$, $p < .01$) and intolerance of uncertainty ($B = .28$, SE $= .07$, $t = 3.91$, $p < .01$) on self-concealment are also significant (step 3). When self-differentiation and mediators enter equation simultaneously (step 4), although the relationship between self-differentiation and self-concealment decreased, significance value was preserved ($c' = -.41$, SE $= .09$, $t = -4.34$, $p < .001$). Thus, the mediating effects of self-compassion and intolerance of uncertainty in the relationship between self-differentiation and self-concealment were confirmed. The model overall is significant ($F(3-296) = 57.26$, $p < .001$) and explained 37% of the total variance in self-concealment.

Statistical significance of indirect effects in the tested model was examined over 10,000 bootstrap samples. The estimates were taken within 95% confidence intervals, and the bias corrected and accelerated

Table 1. Descriptive statistics and bivariate correlations among variables.

	1	2	3	4
1. Self-Differentiation	-			
2. Self-Compassion	.67**	-		
3. Intolerance of Uncertainty	−.46**	−.49**	-	
4. Self-Concealment	−.53**	−.52**	.46**	-
Mean	3.75	3.18	3.28	2.79
SD	.56	.63	.64	.83

$N = 300$, $**p < .01$.

Figure 1. The serial mediation of self-compassion and intolerance of uncertainty in the relationship between self-differentiation and self-concealment.

results, and the comparison of the indirect and specific effects of self-differentiation on self-concealment through self-compassion and intolerance of uncertainty is presented in Table 2.

Table 2 presents that the total indirect effect (the difference between the total and indirect effects/c-c') of self-differentiation through self-compassion and intolerance of uncertainty on self-concealment were statistically significant (PE = −.3813 and 95% BCa CI [−.5313, −.2366]). The results also demonstrated that the mediation of self-compassion (PE = −.2359 and 95% BCa CI [−.3856, −.0963]), the mediation of intolerance of uncertainty (PE = −.0773 and 95% BCa CI [−.1588, −.0195]) and the multiple mediation of self-compassion and intolerance of uncertainty (PE = −.0680 and 95% BCa CI [−.1236, −.0236]) were also significant.

Finally, single and multiple mediation models were compared to find out whether the specific indirect effects of mediating variables differ from each other, and the findings are presented above in Table 2. When the first comparison is examined, single mediation of self-compassion was not statistically different from

single mediation of intolerance of uncertainty. Secondarily, when model 1 and model 3 are compared, based on a 95% BCa confidence interval, single mediation of self-compassion alone was found to be stronger than multiple-serial mediation of self-compassion and intolerance of uncertainty together. Lastly, single mediation of intolerance of uncertainty was not statistically different from multiple-serial mediation of self-compassion and intolerance of uncertainty.

Discussion

The present research finding showed that the serial mediation of self-compassion and intolerance of uncertainty were statistically significant in the model and the single mediation effect of self-compassion was found to be higher than the multiple-serial mediation effect of self-compassion and intolerance of uncertainty together.

As expected, and in line with previous studies (Mokua, 2007; Zhu, 2019), it was found to be a negative link between self-differentiation and self-concealment in the current study. While Mokua (2007)

Table 2. The comparison of the indirect effects of self-differentiation on self-concealment through self-compassion and intolerance of uncertainty and its specific indirect effects.

Effects	Product of coefficients		Bootstrapping 95% BCa Confidence Interval	
	Point Estimate	SE	Lower	Upper
Total Indirect Effects	−.3813	.0748	−.5313	−.2366
Self-Differen.→Self-compas. →Self-conce.	−.2359	.0749	−.3856	−.0963
Self-Differen. →Intolerance of. → Self-conce.	−.0773	.0358	−.1588	−.0195
Self-Differen. → Self-compas. → Intoleran.　Self-conce.	−.0680	.0261	−.1236	−.0236
Contrasts				
Model 1 versus Model 2	−.1587	.0918	−.3414	.0150
Model 1 versus Model 3	−.1679	.0835	−.3343	−.0083
Model 2 versus Model 3	−.0092	.0414	−.1007	.0719

Bias corrected and accelerated 10,000 bootstrap samples, Model 1 = Self-Differentiation – Self-Compassion – Self-Concealment; Model 2= Self-Differentiation – Intolerance of Uncertainty – Self-Concealment; Model 3= Self-Differentiation – Self-Compassion – Intolerance of Uncertainty – Self-Concealment.

argues that self-differentiation negatively predicts self-concealment, in another study, Zhu (2019) mentions that high-level self-differentiation has a positive determining effect on high self-disclosure (i.e., opposite of self-concealment). Well-differentiated individuals having more accurate and detailed cognition about the inner self, can have a closer relationship with themselves with the capacity to emotional awareness in the intrapsychic dimension (Murdock & Gore, 2004) and this creates the basis for the interpersonal level of self-differentiation, namely, the capacity to establish a balance of autonomy and intimacy in relationships (Skowron et al., 2009). This means that individuals who experience a high level of self-differentiation have a high level of self-disclosure. On the other hand, low self-differentiation can negatively affect self-disclosure (Zhu, 2019) and lead to self-concealment. Individuals with low self-differentiation also have poor emotion regulation strategies (Murdock & Gore, 2004). They use negative emotion regulation (i.e., avoidance style) strategies such as ignoring and rejecting to reduce negative emotions such as stress when they encounter a problem, which increases personal and interpersonal problems, and self-concealment is also related to such troubles (Masuda et al., 2011). Self-concealment is a serious problem that prevents a person from getting support from others and finding solutions to their problems. In addition, it can affect mental health even more adversely with negative feelings and thoughts cycle. Self-differentiation, which includes having adaptive emotion regulation and effective social and relational coping mechanisms, can be an important predictor of self-concealment, as this study reveals. Based on the above studies, it can be said that the assumption that self-differentiation has a predictive role on self-concealment has been confirmed.

In the current study, self-differentiation was positively associated with self-compassion. In her study, Foye (2017) revealed that that self-differentiation and self-compassion are positively associated with each other and are protective factors in reducing psychological distress. In addition, it is suggested that family of origin experiences stem from Bowen Family systems theory are effective in increasing self-compassion (Foye, 2017; Knapp et al., 2015). Self-compassion provides balanced awareness between emotions and thoughts (Neff, 2003a) and enhances individuals' ability to touch their inner self and use this knowledge to better communicate with themselves and other people (Mowlaie et al., 2017). Therefore, it can be thought that self-compassion may be a personality characteristic, which is found in individuals with high self-differentiation. The predictor role of self-compassion on self-concealment was also found to be statistically significant. In a study on help-seeking behaviour attitude, Dschaak et al. (2019) mentions that self-compassion is a construct that supports help seeking behaviour, but self-concealment is a preventing construct. In addition, three reversed sub-dimensions of self-compassion (self-judgement, isolation, and over-identification) are regarded as constructs that positively predict self-concealment (Dschaak et al., 2019; Pyle & Morrison, 2014), while the other three positive sub-dimensions (self-kindness, common humanity and mindfulness) is negatively associated with self-concealment (Ashley, 2016; Dschaak et al., 2019; Dupasquier et al., 2018; Masuda et al., 2017). Moreover, Dupasquier et al. (2018) provide evidence that self-compassion can reduce negative consequences of the perceived risk of self-disclosure (i.e., self-concealment) and suggest that self-compassion-based interventions can reduce self-concealment. Based on the above-mentioned study findings and as the findings of the current study reveal, self-differentiation and self-compassion have a similar origin and act together in reducing psychological distress. It is also thought that people with a high level of self-differentiation can develop self-compassion and express themselves to others without self-judgement and isolation from others. Consequently, it can be said that the assumption that self-compassion negatively predicts self-concealment and mediates the relationship between self-differentiation and self-concealment is confirmed.

Self-differentiation was also found to be linked with intolerance of uncertainty in this study. Paprocki (2015) reveals that self-differentiation and intolerance of uncertainty are constructs that are negatively related to each other. Moss (2016) also suggests indirect implications to support this link. Furthermore, based on the theoretical knowledge that individuals with well-differentiation can make intellectual decision-making using adaptive emotion regulation strategies even under uncertain conditions (Kerr & Bowen, 1988; Skowron & Dendy, 2004), it can be said that self-differentiation predicts intolerance of uncertainty negatively. While self-compassion plays a protective role on self-concealment, as another mediator variable in this study, intolerance of uncertainty, can be a risk factor. In line with Robichaud (2013) cognitive behavioural therapy model based on intolerance of uncertainty, self-concealment can be thought to have a construct like the assurance-seeking behaviour of individuals who are intolerant to uncertainty. Robichaud (2013) revealed that the negative thought

cycle (related to negative perceptions self and future and fear of negative evaluation from others) found in individuals who are intolerant of uncertainty leads to assurance-seeking behaviours such as avoiding commitment to others and putting social distance. Individuals with the tendency to self-concealment perceive the personal information they conceal negatively and have a fear of negative evaluation when they share it with others, so they also display an avoidance behaviour (Ashley, 2016; Pyle & Morrison, 2014). Moreover, Moss (2016) argues that individuals who report high levels of self-concealment are vulnerable to criticism and other people's behaviour (as in intolerance of uncertainty) with low self-differentiation. Thus, it is possible that self-concealment is a vulnerability factor found in individuals who are intolerant of uncertainty. Individuals with intolerant of uncertainty also prevent the support they can receive from others by not expressing themselves because they perceive uncertain situations as distressing and use assurance-seeking behaviours widely. A good level of self-differentiation has a positive effect on reducing these negativities in intolerance of uncertainty and, connecting with other people. As a result, based on the studies and as the findings of the current study reveal, it can be said that the assumption that intolerance of uncertainty positively predicts self-concealment and mediates the relationship between self-differentiation and self-concealment is verified.

Consistent with previous studies (Mantzios et al., 2015; Tang, 2019), self-compassion and intolerance of uncertainty, the mediators in the present study, were found to be related. Tang (2019) stated that self-compassion negatively predicted intolerance of uncertainty, and in another study Mantzios et al. (2015) point out that there was a significantly negative correlation between self-compassion and intolerance of uncertainty. Self-compassionate individuals have a positive future orientation, unlike individuals who do not tolerate uncertainty (Tang, 2019). In addition, self-critical thoughts seen in individuals who are intolerant of uncertainty are not common in self-compassionate individuals with high acceptance levels (Mantzios et al., 2015).

Limitations and suggestions

One of the limitations of this research is that the participants were selected with the appropriate sampling method. Repeating the study on the sample from different cities and regions can provide confirmation of the tested model and increase the generalisability of the findings from the present study. Another limitation is that the data is cross-sectional because causality cannot be determined. In future studies, it can be suggested to reveal complex causal relationships with longitudinal and experimental studies. In addition, the effect of self-concealment and other variables in this study was determined on the normal population and through self-report scales. Since self-concealment is more of a construct related to psychological help-seeking, in future research, can be examined on clients with any mental health problems, and research can be enriched with qualitative data.

In this study, it has been focused on self-concealment being a critical issue in the field of personality psychology and psychotherapy and possible risk factor and protective factors have been tried to be determined. Findings from the current study demonstrated that self-differentiation and self-compassion are important factors in reducing self-concealment, and the intolerance of uncertainty is a crucial factor that increases self-concealment. Based on these findings and the model approved, it may be recommended that mental health professionals develop protective and preventive intervention programs to reduce self-concealment based on the predictor factors in this study. Future research can focus on different risk factors and protective factors of self-concealment, especially for help-seeking behaviour, or increase the effectiveness of this research by adding different variables that may be related to the variables in this research.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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References

Ashley, J. M. (2016). *Influence of self-stigma, distress disclosure, and self-compassion on posttraumatic stress reactions in deployment veterans* [Doctoral dissertation]. University of Denver.

Aspinwall, L. G. (2005). The psychology of future-oriented thinking: From achievement to proactive coping,

adaptation, and aging. *Motivation and Emotion*, *29*(4), 203–235. https://doi.org/10.1007/s11031-006-9013-1

Bennett-Goleman, T. (2001). *Emotional alchemy: How the mind can heal the heart*. Three Rivers Press.

Boelen, P. A., & Reijntjes, A. (2009). Intolerance of uncertainty and social anxiety. *Journal of Anxiety Disorders*, *23*(1), 130–135. https://doi.org/10.1016/j.janxdis.2008.04.007

Boswell, J. F., Thompson-Hollands, J., Farchione, T. J., & Barlow, D. H. (2013). Intolerance of uncertainty: A common factor in the treatment of emotional disorders. *Journal of Clinical Psychology*, *69*(6), 630–645. https://doi.org/10.1002/jclp.21965

Bowen, M. (1978). *Family therapy in clinical practice*. Aronson.

Buhr, K., & Dugas, M. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version. *Behaviour Research and Therapy*, *40*(8), 931–945. https://doi.org/10.1016/S0005-7967(01)00092-4

Buhr, K., & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Journal of Anxiety Disorders*, *20*(2), 222–236. https://doi.org/10.1016/j.janxdis.2004.12.004

Chaudoir, S. R., & Fisher, J. D. (2010). The disclosure processes model: Understanding disclosure decision making and postdisclosure outcomes among people living with a concealable stigmatized identity. *Psychological Bulletin*, *136*(2), 236. https://doi.org/10.1037/a0018193

Deniz, M., Kesici, S., & Sumer, A. S. (2008). The validity and reliability of the Turkish version of the Self-Compassion Scale. *Social Behavior and Personality: An International Journal*, *36*(9), 1151–1160. https://doi.org/10.2224/sbp.2008.36.9.1151

Dschaak, Z. A., Spiker, D. A., Berney, E. C., Miller, M. E., & Hammer, J. H. (2019). Collegian help seeking: The role of self-compassion and self-coldness. *Journal of Mental Health*, *30*(3), 1–8. https://doi.org/10.1080/09638237.2019.1677873

Dugas, M. J., & Robichaud, M. (2007). *Cognitive-behavioral treatment for generalized anxiety disorder: From science to practice*. Routledge.

Dupasquier, J. R., Kelly, A. C., Moscovitch, D. A., & Vidovic, V. (2018). Practicing self-compassion weakens the relationship between fear of receiving compassion and the desire to conceal negative experiences from others. *Mindfulness*, *9*(2), 500–511. https://doi.org/10.1007/s12671-017-0792-0

Flett, G. L., & Hewitt, P. L. (2002). Perfectionism and maladjustment. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and treatment* (pp. 5–31). American Psychological Association.

Foye, A. R. (2017). *The relationship between differentiation of self, self-compassion, moral injury and anxiety among military veterans* [Master thesis]. The Purdue University.

Freud, S. (1958). *On the beginning of treatment: Further recommendations on the techniques of psychoanalysis*. Hogarth Press.

Grevenstein, D., Aguilar-Raab, C., Schweitzer, J., & Bluemke, M. (2016). Through the tunnel, to the light: Why sense of coherence covers and exceeds resilience, optimism, and self-compassion. *Personality and Individual Differences*, *98*, 208–217. https://doi.org/10.1016/j.paid.2016.04.001

Hagger, B. F., & Riley, G. A. (2019). The social consequences of stigma-related self-concealment after acquired brain injury. *Neuropsychological Rehabilitation*, *29*(7), 1129–1148. https://doi.org/10.1080/09602011.2017.1375416

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.

Isık, E., & Bulduk, S. (2015). Psychometric properties of the differentiation of self inventory-revised in Turkish adults. *Journal of Marital and Family Therapy*, *41*(1), 102–112. https://doi.org/10.1111/jmft.12022

Kawamura, K. Y., & Frost, R. O. (2004). Self-concealment as a mediator in the relationship between perfectionism and psychological distress. *Cognitive Therapy and Research*, *28*(2), 183–191. https://doi.org/10.1023/B:COTR.0000021539.48926.c1

Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, *31*(6), 1041–1056. https://doi.org/10.1016/j.cpr.2011.04.006

Kerr, M. E. (1984). Theoretical base for differentiation of self in one's family of origin. *The Clinical Supervisor*, *2*(2), 3–36. https://doi.org/10.1300/J001v02n02_02

Kerr, M. E., & Bowen, M. (1988). *Family evaluation*. Norton.

Kim, B. S., Atkinson, D. R., & Umemoto, D. (2001). Asian cultural values and the counseling process: Current knowledge and directions for future research. *The Counseling Psychologist*, *29*(4), 570–603. https://doi.org/10.1177/0011000001294006

Knapp, D. J., Norton, A. M., & Sandberg, J. G. (2015). Family-of-origin, relationship self-regulation, and attachment in marital relationships. *Contemporary Family Therapy*, *37*(2), 130–141. https://doi.org/10.1007/s10591-015-9332-z

Knauth, D. G., & Skowron, E. A. (2004). Psychometric evaluation of the differentiation of self inventory for adolescents. *Nursing Research*, *53*(3), 163–171. https://doi.org/10.1097/00006199-200405000-00003

Lampis, J., Cataudella, S., Agus, M., Carta, S., Rodríguez-González, M., & Lasio, D., Serri, F., & Galluzzo, W. (2019). Differentiation of self and the decision to seek systemic psychotherapy: A comparison between a help-seeking and a normative sample. *Counselling Psychology Quarterly*, *34*(1) 54–71. https://doi.org/10.1080/09515070.2019.1653263

Lane, J. D., & Wegner, D. M. (1995). The cognitive consequences of secrecy. *Journal of Personality and Social Psychology*, *69*(2), 237. https://doi.org/10.1037/0022-3514.69.2.237

Larson, D. G., & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social and Clinical Psychology*, *9*(4), 439–455. https://doi.org/10.1521/jscp.1990.9.4.439

Mantzios, M., Wilson, J. C., Linnell, M., & Morris, P. (2015). The role of negative cognition, intolerance of uncertainty, mindfulness, and self-compassion in weight regulation among male army recruits. *Mindfulness*, *6*(3), 545–552. https://doi.org/10.1007/s12671-014-0286-2

Masuda, A., Anderson, P. L., Wendell, J. W., Chou, Y. Y., Price, M., & Feinstein, A. B. (2011). Psychological flexibility mediates the relations between self-concealment and negative psychological outcomes. *Personality and*

Individual Differences, *50*(2), 243–247. https://doi.org/10.1016/j.paid.2010.09.037

Masuda, A., Tully, E. C., Drake, C. E., Tarantino, N., Ames, A. M., & Larson, D. G. (2017). Examining self-concealment within the framework of psychological inflexibility and mindfulness: A preliminary cross-sectional investigation. *Current Psychology*, *36*(1), 184–191. https://doi.org/10.1007/s12144-015-9399-6

Masuda, A., Wendell, J. W., Chou, Y. Y., & Feinstein, A. B. (2010). Relationships among self-concealment, mindfulness and negative psychological outcomes in Asian American and European American college students. *International Journal for the Advancement of Counselling*, *32*(3), 165–177. https://doi.org/10.1007/s10447-010-9097-x

Mendoza, H., Goodnight, B. L., Caporino, N. E., & Masuda, A. (2018). Psychological distress among Latina/o college students: The roles of self-concealment and psychological inflexibility. *Current Psychology*, *37*(1), 172–179. https://doi.org/10.1007/s12144-016-9500-9

Mennin, D. S., Ellard, K. K., Fresco, D. M., & Gross, J. J. (2013). United we stand: Emphasizing commonalities across cognitive-behavioral therapies. *Behavior Therapy*, *44*(2), 234–248. https://doi.org/10.1016/j.beth.2013.02.004

Mokua, G. M. (2007). *Self-concealment and voluntary counseling and testing among Kenyatta University students* [Unpublished thesis]. Kenyatta University Library.

Morita, S. (1998). Morita therapy and the true nature of anxiety-based disorders (shinkeishitsu). State University of New York.

Moss, S. (2016). *Compartmentalization model of self structure*. http://www.sicotests.com/psyarticle.asp?id=54

Mowlaie, M., Mikaeili, N., Aghababaei, N., Ghaffari, M., & Pouresmali, A. (2017). The relationships of sense of coherence and self-compassion to worry: The mediating role of personal intelligence. *Current Psychology*, *36*(3), 630–636. https://doi.org/10.1007/s12144-016-9451-1

Murdock, N. L., & Gore, P. A. (2004). Stress, coping, and differentiation of self: A test of Bowen theory. *Contemporary Family Therapy*, *26*(3), 319–335. https://doi.org/10.1023/B:COFT.0000037918.53929.18

Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*(3), 223–250. https://doi.org/10.1080/15298860309027

Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85–102. https://doi.org/10.1080/15298860309032

Paprocki, C. (2015). *Relationship-based anxiety: Using a cognitive-behavioral perspective to develop and evaluate a couples' intervention* [Doctoral dissertation]. The University of North Carolina at Chapel Hill.

Pennebaker, J. W. (1989). Confession, inhibition, and disease. In L. Berkowitz (Ed.), *Advances in social psychology* (pp. 211–244). Academic Press.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40* (3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Pyle, M., & Morrison, A. P. (2014). "It's just a very taboo and secretive kind of thing": Making sense of living with stigma and discrimination from accounts of people with psychosis. *Psychosis*, *6*(3), 195. https://doi.org/10.1080/17522439.2013.834458

Robichaud, M. (2013). A clinical case of generalized anxiety disorder. *Cognitive and Behavioral Practice*, *20*(3), 247–250. https://doi.org/10.1016/j.cbpra.2009.10.010

Sari, S., & Dag, D. (2009). Belirsizliğe tahammülsüzlük ölçeği, endişe ile ilgili olumlu inançlar ölçeği ve endişenin sonuçları ölçeğinin Türkçe'ye uyarlanması, geçerliliği ve güvenilirliği. *Anatolian Journal of Psychiatry*, *10*(4), 261–270.

Shikatani, B., Antony, M. M., Cassin, S. E., & Kuo, J. R. (2016). Examining the role of perfectionism and intolerance of uncertainty in postevent processing in social anxiety disorder. *Journal of Psychopathology and Behavioral Assessment*, *38*(2), 297–306. https://doi.org/10.1007/s10862-015-9516-8

Skowron, E. A., & Dendy, A. K. (2004). Differentiation of self and attachment in adulthood: Relational correlates of effortful control. *Contemporary Family Therapy*, *26*(3), 337–357. https://doi.org/10.1023/B:COFT.0000037919.63750.9d

Skowron, E. A., & Friedlander, M. L. (1998). The differentiation of self inventory: Development and initial validation. *Journal of Counseling Psychology*, *45*(3), 235. https://doi.org/10.1037/0022-0167.45.3.235

Skowron, E. A., & Schmitt, T. A. (2003). Assessing interpersonal fusion: Reliability and validity of a new DSI fusion with others subscale. *Journal of Marital and Family Therapy*, *29*(2), 209–222. https://doi.org/10.1111/j.1752-0606.2003.tb01201.x

Skowron, E. A., Stanley, K. L., & Shapiro, M. D. (2009). A longitudinal perspective on differentiation of self, interpersonal and psychological well-being in young adulthood. *Contemporary Family Therapy*, *31*(1), 3–18. https://doi.org/10.1007/s10591-008-9075-1

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Pearson.

Tang, W. K. (2019). Resilience and self-compassion related with achievement emotions, test anxiety, intolerance of uncertainty, and academic achievement. *Psychological Studies*, *64*(1), 92. https://doi.org/10.1007/s12646-019-00482-6

Terzi, S., Güngör, H. C., & Erdayı, G. S. (2010). *Kendini Saklama Ölçeği'nin uyarlanması: Geçerlik ve güvenirlik çalışması* [Adaptation of the Self Concealment Scale: Validity and reliability study]. *Türk Eğitim Bilimleri Dergisi*, *8*(3), 645–660.

Trompetter, H. R., de Kleine, E., & Bohlmeijer, E. T. (2017). Why does positive mental health buffer against psychopathology? An exploratory study on self-compassion as a resilience mechanism and adaptive emotion regulation strategy. *Cognitive Therapy and Research*, *41*(3), 459–468. https://doi.org/10.1007/s10608-016-9774-0

Wang, J., Qi, L., & Cui, L. (2014). The mediating effect of personality traits on the relationship between self-concealment and subjective well-being. *Social Behavior and Personality: An International Journal*, *42*(4), 695–703. https://doi.org/10.2224/sbp.2014.42.4.695

Wegner, D. M. (1989). *White bears and other unwanted thoughts*. Penguin.

Zhu, X. (2019). Relationship between self-differentiation and self-disclosure of college students: The mediating role of peer attachment. In *3rd International Conference on Economics and Management, Education, Humanities and Social Sciences (EMEHSS 2019)*. Atlantis Press.