



Hopelessness and compulsive buying in young people: The mediating role of alexithymia

A. Estévez, A.M. Iglesias-Faba, M. Herrero, L. Macía *

Psychology Department, School of Health Sciences, University of Deusto, Bilbao, Spain

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ABSTRACT

Compulsive buying is the persistent, excessive, and uncontrollable purchase of products, despite the consequences it entails, and it seems very present in the young population. An increase in this problem has been observed, and, in addition, it seems to share common characteristics with other addictions, although it is not cataloged as such in current psychopathological manuals. Previous research has related alexithymia and hopelessness to other behavioral addictions. Therefore, this research explores the relationship between compulsive buying behavior, alexithymia, and hopelessness. The objective is to observe whether these variables increase the probability of the problem of compulsive buying through a cross-sectional quantitative study in a young population. For this purpose, the Beck hopelessness Scale, the TAS-20, and the MULTICAGE CAD-4 were applied to a sample of 493 participants (78.5 % women). The results showed a positive relationship between the study variables. Also, different profiles were observed in young people with compulsive buying as a function of alexithymia and hopelessness. The results also indicated that alexithymia is a mediating variable in the relationship between hopelessness and compulsive buying. This is highly relevant, as it may be useful for understanding the formation, prevention, and treatment of compulsive buying, as well as for creating a theoretical framework and sample profiling.

1. Introduction

Compulsive buying (CB) is a persistent, excessive, and uncontrollable purchase of products, despite the economic, psychological, social, and personal consequences it generates (Müller et al., 2015). These behaviors are considered irresistible and intrusive impulses (Díez et al., 2018). In Spain, the prevalence of CB is estimated to be around 4 %, with a higher occurrence in women (19.9 %) compared to men (1.6 %) (Delegación del Gobierno para el Plan Nacional sobre Drogas, 2023). Similar trends have been reported in other studies (Granero, Fernández-Aranda, Mestre-Bach, et al., 2016; Vats et al., 2021). However, estimating the prevalence of CB is challenging, as current psychopathological classification systems (American Psychiatric Association, 2013) do not recognize CB as an addiction. This has led to ongoing debate regarding whether CB should be classified as an impulsive or an addictive disorder (Potenza, 2014; World Health Organization, 2021). Despite this, individuals with CB fail to stop their purchasing behaviors even in the face of negative consequences (Konkolý Thege et al., 2015). Moreover, CB shares commonalities with other behavioral addictions

(Grant & Chamberlain, 2014; Müller et al., 2019), particularly high impulsivity, compulsivity, and novelty-seeking traits (Choi et al., 2014; Di Nicola et al., 2015; Grant & Chamberlain, 2014). However, CB also presents distinct phenomenological differences from other behavioral addictions, including a higher prevalence in women, later onset, poorer psychopathological status, harm-avoidance tendencies, generalized and affective impulsivity (primarily negative), pessimistic attitude, distress intolerance, and low self-regulation (decision-making, organization, etc.) (Alemis & Yap, 2013; Granero, Fernández-Aranda, Mestre-Bach, et al., 2016; Mestre-Bach et al., 2022; Rose & Segríst, 2014). Moreover, given that compulsive buying is influenced by both environmental factors (market economy, materialism, availability, self-centered morality) (Granero, Fernández-Aranda, Baño, et al., 2016; Müller et al., 2022) and individual factors (emotional dysregulation, impulsivity, stress vulnerability, harm avoidance), different profiles or subtypes of individuals may emerge based on the interplay of these risk factors (Granero, Fernández-Aranda, Baño, et al., 2016; Granero, Fernández-Aranda, Mestre-Bach, et al., 2016). Some protective factors, such as motherhood (Mestre-Bach et al., 2022) or emotion-regulation strategies

* Corresponding author at: Departamento de Psicología, Facultad de Ciencias de la Salud, Universidad de Deusto, Bilbao, Av. de las universidades 24, 48007, Spain.
E-mail address: lauramacia@deusto.es (L. Macía).

observed in disorders like pathological gambling (Gutiérrez et al., 2014) may also play a role. On the other hand, in relation to the aforementioned environmental factors, it is worth mentioning that compulsive buying increased significantly and dysfunctionally during the COVID-19 pandemic, which supports that stressful situations might be closely linked to this practice, especially in young people (Amerio et al., 2022; Estévez et al., 2024).

Additionally, the comorbidity of compulsive buying (CB) with various issues is observed, such as other behavioral addictions like gambling disorder (Estévez et al., 2020), obsessive-compulsive disorder (OCD) (Mestre-Bach et al., 2023), eating disorders (EDs) (Jiménez-Murcia et al., 2015), mood disorders (Zhang et al., 2016), and impulse control disorders, due to their phenomenological similarities (Fontenelle et al., 2011). In this regard, previous studies indicate that comorbidity between CB and other psychiatric conditions such as mood disorders, tend to be indicative of a more severe profile (Granero, Fernández-Aranda, Baño, et al., 2016; Kesebir et al., 2012). This issue is important as authors such as Pompili et al. (2009) note that the severity of the psychopathological profile, as well as comorbidity between mood disorders and CB are important predictors of non-adherence to treatment.

This comorbidity could be attributed to certain transdiagnostic factors, such as compulsivity, impulsivity, and emotional dysregulation. For instance, different disorders exhibit varying levels of compulsivity, with some being phenotypically more compulsive (e.g., internet gaming disorder) (Kim et al., 2017) or more impulsive (e.g., CB) (Vats et al., 2021). Accordingly, the scientific literature has explored CB in relation to impulse control, mood disorders, addictions, and OCD (Soto Valenzuela et al., 2023).

In line with this, CB has been characterized by its impulsive-compulsive nature, similar to gambling disorder, involving an inability to control impulses toward a specific behavior as a means of regulating negative emotions or seeking immediate gratification to prolong positive affective states despite adverse consequences (Fernández-Aranda et al., 2019; Williams & Grisham, 2012). This pattern is also associated with low self-directedness and impaired self-regulation, commonly observed in individuals with CB (Claes et al., 2010; Granero, Fernández-Aranda, Baño, et al., 2016; Mestre-Bach et al., 2022).

Another transdiagnostic factor related to CB is the lack of emotion regulation. This refers to the ability to regulate the perception, experience, and expression of emotions perceived as negative while enhancing positive emotions by adjusting their intensity and direction. Such regulation leads to physiological, behavioral, and psychological changes (Gross, 2002, 2014). Part of this process requires recognizing and identifying one's own emotional states so that emotion-regulation processes will be adaptive and effective (Weiss et al., 2015). Emotional dysregulation has also been associated with substance abuse (Garke et al., 2021), impulse control difficulties (Schreiber et al., 2012), pathological gambling, and problematic internet or video game use (Gutiérrez et al., 2014). Thus, individuals with behavioral and/or substance addictions have difficulties in executing these emotion-regulation skills (Cavicchioli et al., 2020; Estévez et al., 2017).

In this regard, theoretical models of emotion regulation indicate that regulating emotions requires the prior ability to recognize them. Alexithymia is defined as a deficit in identifying and describing one's emotions and difficulties in their external expression (Brewer et al., 2016), which may contribute to impulsive and maladaptive symptomatology (Pogostin et al., 2014; Taylor, 2000). Therefore, alexithymia is considered a factor that may hinder emotion regulation (Taylor et al., 1988). In this sense, alexithymia has been considered a primary deficit in the key processes of emotion regulation at the levels of attention (internally directed cognition), assessment (identifying and describing feelings), and affective states (Preece et al., 2017). This leads to an externally oriented cognitive style, where individuals focus on superficial information while avoiding affect (Bagby et al., 1994). This has been observed in individuals with high levels of alexithymia who exhibit impaired emotion-regulation skills (Swart et al., 2009). Moreover,

alexithymia creates a dissociation between implicit (e.g., physiological arousal) and explicit emotional responses (e.g., perceived emotional intensity) (Gaigg et al., 2018; Nielson & Meltzer, 2009; Papiak et al., 1985; Stone & Nielson, 2001). Alexithymia is thus considered a dimensional trait that varies across the general population and extends into clinical samples (Parker et al., 2008). Research has further shown that alexithymia negatively impacts therapeutic outcomes in anxiety and mood disorders (Kosten et al., 1992; Leweke et al., 2009; Ogrodniczuk et al., 2011). Alexithymia also appears to be related to the presence and severity of addictive behaviors, including gambling disorder, excessive mobile phone and internet use (Elmas et al., 2017; Gao et al., 2018; Schimmenti et al., 2017), and substance dependence (Betka et al., 2018; Stasiewicz et al., 2012).

In this context, theoretical models suggest that in addiction, substances or behaviors may be used as a means of regulating negative emotions due to a lack of adaptive emotion-regulation strategies (Carette et al., 2018; Gori et al., 2021). Alexithymic traits have been associated with problematic gambling behaviors and sensation-seeking (Marchetti et al., 2019) and are considered a factor where higher scores lead to a greater tendency to engage in addictive behaviors through emotional dysregulation processes (Elmas et al., 2017). Specifically, negative emotional states have been found to mediate the relationship between alexithymia and gambling disorder severity (Estévez et al., 2022; Noël et al., 2018). Similarly, higher alexithymia scores have been linked to emotional dysregulation, greater addiction severity, and decreased ability to maintain abstinence in individuals with alcohol use disorder (Ghorbani et al., 2017; Stasiewicz et al., 2012). Although these relationships have been well-documented in other addictive disorders, further research is needed to explore their relevance in CB.

Thus, in the face of unpleasant experiences that trigger negative moods, individuals with alexithymia may be more prone to using inadequate strategies, as also observed in CB (Gori et al., 2022; Rose & Segrist, 2014). Therefore, the greater the difficulty in regulating emotions, the greater the tendency to use coping strategies to distance oneself from emotions and the problem (Monteiro et al., 2014), as in harm avoidance behaviors in CB. Individuals with CB are more likely to feel bad before making a purchase and feel euphoria when shopping. However, after the purchase, they experience a reduction in those positive emotions and an increase in negative emotions (e.g., guilt, shame) (Dittmar, 2004; Kellett & Bolton, 2009). Studies have identified associations between negative affectivity, alexithymia, dissociation, and childhood maltreatment in CB (Gori et al., 2022; Kaur & Mearns, 2021).

Another variable associated with CB is depressive symptomatology, particularly in women (Bani-Rshaid & Alghraibeh, 2017), who tend to experience greater distress and use passive coping strategies (Villardefrancos & Otero-López, 2014) to regulate negative affective states (Faber & Christenson, 1996). Anxiety and depressive symptoms have also been linked to emotional dysregulation, alexithymia, and maladaptive coping strategies from a transdiagnostic perspective (Compas et al., 2013; Jauregui et al., 2016). Thus, individuals with CB may purchase products to alleviate their emotional distress, rather than for the acquisition of the product itself, making them highly susceptible to risk factors such as hopelessness, depression, anxiety, or low self-esteem (Mueller et al., 2010; Sohn & Choi, 2012) (Mueller et al., 2010; Sohn & Choi, 2012). For individuals with CB, buying as a maladaptive coping strategy in response to negative emotions (e.g., sadness, hopelessness...). These emotions, combined with certain individual beliefs (such as materialism), generate emotional responses (e.g., depression, anxiety, guilt), leading to the use of purchasing as a means of self-regulation (Sohn & Choi, 2012). Furthermore, hopelessness has not only been associated with alexithymia (Serafini et al., 2020), but it has also been observed that individuals with alexithymia score higher in early maladaptive schemas and depression than those without alexithymia. The coexistence of these three variables worsens their psychopathological state (Saariaho et al., 2015). Another aspect is that women with severe gambling behavior exhibit higher levels of harm

avoidance and more dysfunctional mood-related behaviors than men with moderate or severe gambling problems (Jiménez-Murcia et al., 2020). A possible explanation for this phenomenon is women's tendency to transform anger into depression as a means of better managing their emotional states (Simon & Lively, 2010). This may also apply to cases of CB.

1.1. Objectives and hypotheses

For all the above reasons, alexithymia seems to be related to hopelessness and addictive behaviors, although in the case of CB, these variables have not been studied conjointly. This work presents the following objectives: first, to explore the relationship between the study variables (alexithymia, hopelessness, and CB); second, to analyze the profile of young people with problematic CB behaviors, as well as the frequency of each profile; third, to study the effect and differences between alexithymia and hopelessness in each group concerning CB; and fourth, to test the mediating role of alexithymia between hopelessness and CB.

Based on these objectives, the following hypotheses are proposed: first, there will be a positive relationship between all the study variables (alexithymia, hopelessness, and CB); secondly, it is expected that there will be different groups of young people according to their risk of presenting CB; thirdly, differences will be found between CB groups in alexithymia and hopelessness; and fourthly, alexithymia will mediate the relationship between hopelessness and CB in youths.

2. Method

2.1. Participants

This study included a non-clinical sample of 493 young adults aged between 18 and 35, with a mean age of 22.60 ($SD = 3.32$). The sample comprised 21 % men, 78.5 % women, and 0.3 % of another gender. Regarding employment status, most of the sample (53.3 %) were students, 25.9 % were both studying and working, and 18.0 % were exclusively working. The smallest groups were unemployed (2.5 %) and homemakers (0.3 %).

2.2. Instruments

2.2.1. Hopelessness

The Beck Hopelessness Scale (Beck et al., 1974). This brief scale consists of 20 dichotomous items. Items indicating hopelessness are scored with a 1, while those that do not are scored with a 0, with a maximum possible score of 20. This instrument detects pessimistic and negative attitudes in patients at risk of depression or suicide. It has been validated and adapted for the Spanish population (Aguilar et al., 1995). In this study, the Cronbach's alpha was $\alpha = 0.86$ and the McDonald's Omega was $\Omega = 0.92$.

2.2.2. Compulsive buying

The MULTICAGE-CAD-4 questionnaire (Ewing, 1984) assesses different addictive behaviors through 32 dichotomous items and 8 subscales (Alcohol, Drugs, Pathological Gambling, Internet, Video Games, Compulsive Spending, Eating Disorders, and Sex). For this study, only the Compulsive Spending subscale was used. Items are scored *yes* (1) or *no* (0), with a higher score indicating problems. The responses were classified as three-level variables indicating the risk of compulsive spending (i.e., No risk = 0 or 1, Probable risk = 2 and Quite probable risk ≥ 3). These issues are evaluated based on self-perception of the problem, cohabitants' perceptions, feelings of guilt, and signs of withdrawal or inability to control the problematic behavior. This questionnaire has been validated in the Spanish population (Pérez et al., 2007) and demonstrates high sensitivity (65–90 %), specificity (88–100 %), and accuracy (40–60 %) (Shields & Caruso, 2004). In this study, the Cronbach's

alpha was $\alpha = 0.35$, and the McDonald's Omega was $\Omega = 0.73$.

2.2.3. Alexithymia

The Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994) measures alexithymia through 20 Likert-type items rated on a 6-point scale ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). It is divided into three subscales that define the characteristics of alexithymia: (a) Difficulty Identifying Feelings and distinguishing them from physical states triggered by emotions; (b) Difficulty Describing one's feelings to others; and (c) Externally Oriented Thinking, characterized by difficulty in symbolic processes (fantasy, recall, and symbolic management of emotions). This scale has been validated in the Spanish population (Sánchez, 1996), showing good internal consistency ($\alpha = 0.83$ for the original scale and $\alpha = 0.81$ for the Spanish adaptation). In this study, the Cronbach's alpha was $\alpha = 0.86$ and the McDonald's Omega was $\Omega = 0.70$.

2.3. Procedure

This study employed a cross-sectional research design with convenience (non-randomized) sampling. The inclusion criterion for participation was age, requiring individuals to be at least 18 years old and no older than 35. Data collection was conducted through two main sources: a database comprising students from the Complutense University of Madrid and a non-probabilistic snowball sampling method, which involved distributing the questionnaire via social media platforms (e.g., WhatsApp, Instagram, Facebook), as well as scientific journals or websites with outreach purposes.

For the entire sample, the survey was completed through an online link to the questionnaire or a QR code that provided access to the questionnaire. To participate, individuals had to be at least 18 years old, read the study information, and provide informed consent. They were informed that the questionnaire would take approximately 30 min to complete and included general information about the study's main objectives. The instructions emphasized that there were no right or wrong answers, and participants could contact the lead researcher via email for further information about the study. Confidentiality, anonymity, and voluntary participation were ensured for all participants. No compensation was provided for participation, and no experimental manipulations or interventions were performed in this study. The study received ethical approval from the ethics committee of the author's university (ETK-17/20-21).

2.4. Statistical analysis

The analyses were conducted using SPSS 20.0 (IBM Corp, 2020) and Mplus 8.0 (Muthén & Muthén, 2017). First, descriptive statistics and correlations between the continuous study variables were calculated. Normality of the continuous variables was assessed through kurtosis and skewness, with values lower than $|2|$ were considered indicators of normality (Cain et al., 2017).

Second, the frequency of CB behaviors was obtained, and ANCOVA was applied to test differences in hopelessness, and alexithymia across CB groups (i.e., absence of CB, possible CB, and highly probable CB), including age and gender as covariates. When a significant overall effect was found, post hoc analyses with Bonferroni correction were conducted to examine pairwise group differences. Partial eta-squared (η^2p) was calculated as the effect size, with values of $\eta^2p = 0.01$, $\eta^2p = 0.09$, and $\eta^2p = 0.14$ considered small, medium, and large effect sizes, respectively (Cohen, 1988).

Third, the hypothetical model was tested using path analysis in Mplus 8.0, where hopelessness was the independent variable, alexithymia was the mediator, and CB was the dependent variable.

The weighted least squares mean and variance adjusted estimator (WLSMV) was used, as recommended for models with categorical dependent variables (Wang & Wang, 2019). Age and gender were included as control variables when their effect was significant. Model fit

was assessed using chi-squared (χ^2), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). Specifically, a non-significant χ^2 , CFI > 0.90, TLI > 0.90, and RMSEA < 0.08 were considered indicators of good fit (Hu & Bentler, 1999).

To properly test mediation effects (Hayes, 2017), indirect effects were estimated using 10,000 bootstrap samples. We calculated R^2 to assess effect size, where $R^2 = 0.01$ was considered a small effect, $R^2 = 0.09$ a medium effect, and $R^2 = 0.25$ a large effect.

3. Results

First, descriptive statistics and the correlation between hopelessness and alexithymia were calculated. As shown in Table 1, skewness and kurtosis were below |2|, supporting the assumption of normality. Furthermore, the correlation was positive and significant, indicating that higher hopelessness was significantly associated with greater alexithymia.

Second, the frequencies of each CB group were analyzed, as well as the differences in hopelessness and alexithymia between the CB groups (see Table 2). Most of the sample did not have CB (82.4 %), followed by those with probable CB (12.3 %), and 5.3 % with highly probable CB.

The ANCOVA results revealed significant differences between the CB groups in hopelessness and alexithymia, with small effect sizes. Post-hoc analyses indicated that the group without CB reported significantly lower hopelessness ($\Delta M = -2.42$, $p = .009$) and alexithymia ($\Delta M = -10.31$, $p < .001$) compared to the group with probable CB. However, there were no significant differences in hopelessness or alexithymia between the groups with probable CB and highly probable CB (hopelessness: $\Delta M = -0.89$, $p = 1.000$; alexithymia: $\Delta M = -8.12$, $p = .102$) or between the groups with probable and highly probable CB (hopelessness: $\Delta M = 1.53$, $p = .803$; alexithymia: $\Delta M = 2.19$, $p = 1.000$).

Thirdly, the proposed model was tested through path analysis. The results of this analysis indicated that the model fit the data well ($\chi^2[2] = 3.12$, $p = .209$, CFI = 0.97, TLI = 0.91, RMSEA = 0.04). The path coefficients of the model (see Fig. 1) showed that hopelessness was positively and significantly related to alexithymia. Furthermore, alexithymia was significantly related to CB, with higher alexithymia being associated with a higher risk of CB. The direct effect of hopelessness on CB was nonsignificant.

Finally, the indirect effect of hopelessness on CB was positive and significant, indicating that greater hopelessness was associated with a higher risk of CB through its effect on alexithymia.

Thus, this study meets the criteria for alexithymia to be considered a mediating variable (Baron & Kenny, 1986) because there is a correlation between the independent variable (hopelessness) and the mediator (path a); there is a correlation between the mediator (alexithymia) and the dependent variable (CB) (path b); and the direct path between hopelessness and CB (path c) is null or weaker than the path between hopelessness and CB via the mediator (alexithymia).

This model explained 11.9 % of the variance in alexithymia and 15.4 % of the variance in CB, which are medium effect sizes.

4. Discussion

The present study's results reflect the importance of alexithymia and

hopelessness in CB behaviors among young people. The first objective of the study was to explore the relationship between the study variables (alexithymia, hopelessness, and CB), with results indicating the existence of a positive and significant relationship among them, such that greater hopelessness corresponds to greater alexithymia, confirming the first hypothesis. Serafini et al. (2020) found a relationship between hopelessness and alexithymia, as well as their connection to other variables, such as emotional dysregulation (Elmas et al., 2017) or early maladaptive schemas (Saariaho et al., 2015), among others. The study variables are interrelated and align with previous research on addictive behaviors, highlighting their relationship with alexithymia (Gori et al., 2022; Rose & Segrist, 2014) and hopelessness (Mueller et al., 2010; Sohn & Choi, 2012).

On the other hand, the second and third objectives of the study were to analyze the type and frequency of young people with problematic CB behaviors. Specifically, the study findings show differences within each group concerning the study variables. The groups with absence of CB and probable CB showed differences in hopelessness and alexithymia. However, there were no significant differences in hopelessness or alexithymia between the probable and highly probable CB groups. Regarding the third objective, the effect of and differences between alexithymia and hopelessness in each CB group were analyzed, revealing no significant differences in hopelessness or alexithymia between the probable and highly probable CB groups. In contrast, there were significant differences in alexithymia and hopelessness between the group without CB and the probable CB group, with a significantly lower relationship in the group without CB. This supports the hypothesis that there are differences between CB groups in alexithymia and hopelessness.

This differentiation within groups based on the study variables can be added to the phenomenological characteristics of this addictive behavior (Alemis & Yap, 2013; Granero, Fernández-Aranda, Mestre-Bach, et al., 2016; Mestre-Bach et al., 2022; Rose & Segrist, 2014). Furthermore, it is also relevant in the clinical field, as it may indicate a higher severity level of CB. That is, the presence of alexithymia and hopelessness may increase the likelihood of CB or its greater severity, as observed in other addictive behaviors (Elmas et al., 2017; Gao et al., 2018; Schimmenti et al., 2017). Thus, the results suggest that both hopelessness and alexithymia are vulnerability factors that young people may experience at the onset of CB behaviors, even before they fully develop a disorder or addiction. Another important aspect to explore is the relationship between alexithymia and hopelessness with CB, as significant differences were found between groups with and without CB concerning both variables. This indicates that in future research, prevention, and clinical interventions, these variables should be considered, as different profiles can be established based on the combination of risk factors (Granero, Fernández-Aranda, Baño, et al., 2016; Granero, Fernández-Aranda, Mestre-Bach, et al., 2016), protective factors (Mestre-Bach et al., 2022), or variables such as alexithymia and hopelessness (Mueller et al., 2010; Sohn & Choi, 2012).

Finally, the last objective of this study was to test the possible mediating role of alexithymia between hopelessness and CB. The results confirmed the mediating interaction of alexithymia, which explains the influence of hopelessness (independent variable) on CB (dependent variable). This mediation relationship helps understand how each variable influences the others and produces its effects (Etchebarne et al., 2008). This is clinically very useful, as the results suggest that

Table 1
Descriptive statistics and correlation between hopelessness, and alexithymia.

Variable	Descriptive statistics						Correlation
	M	SD	Min	Max	Sk	Kr	
Hopelessness	6.94	4.85	0	19	0.98	-0.21	
Alexithymia	48.38	16.13	16	93	0.24	-0.51	0.23***

Note. Min = minimum, Max = maximum, Sk = skewness, Kr = kurtosis.

*** $P < .001$.

Table 2
Differences in hopelessness and alexithymia between compulsive buying groups.

Variable	Compulsive buying						ANCOVA	
	Absence (n = 261)		Probable (n = 39)		Highly probable (n = 17)		F	η^2p
	M	SD	M	SD	M	SD		
Hopelessness	6.56	4.75	9.10	4.94	7.88	5.25	4.58*	0.029
Alexithymia	46.55	15.78	57.38	16.60	56.41	11.38	9.54***	0.058

* $P < .05$.

*** $P < .001$.

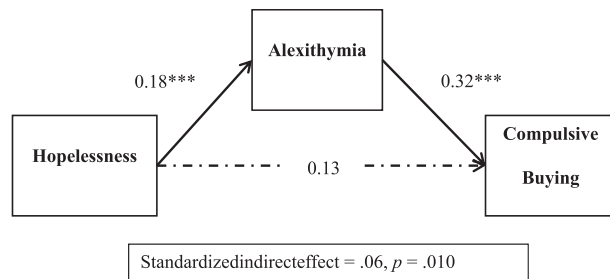


Fig. 1. Standardized path coefficients of the path model. The dashed line indicates a nonsignificant effect.

alexithymia is an important risk factor for the development and/or maintenance of a disorder, in this case, CB. Based on the mediators and moderators model (Kraemer et al., 2002), we can determine the best treatments for CB based on the mediating relationship of the variables involved and theories about its formation.

In other words, this suggests not only that alexithymia is related to CB but also that it mediates and strengthens its relationship with hopelessness, increasing the likelihood of engaging in CB behaviors. The model indicates that greater hopelessness leads to a higher risk of CB through its effect on alexithymia. This suggests that the likelihood of engaging in CB increases when an individual experiences emotions such as hopelessness and cannot express these emotions (e.g., alexithymia). Aligned with these findings, it is hypothesized that an intense emotion like hopelessness, when not identified, cannot be adaptively regulated, leading to its regulation through shopping as an escape mechanism. Shopping becomes a maladaptive alternative for regulating emotions that young people cannot identify or express, serving as a way to cope with negative emotions or situations.

Nevertheless, it is important to acknowledge the lack of current research on CB, as it is a little-known behavior that has not yet been recognized as an addictive disorder (American Psychiatric Association, 2013), despite growing evidence pointing in that direction. Therefore, further research should be conducted on this type of behavior, given the importance of consumption and emotional dysregulation in contemporary society.

4.1. Limitations

Like any research, this study has a series of limitations that must be considered. First, the sample was not diagnosed with a CB disorder, not only due to the previously mentioned debate about whether it is considered an addictive or compulsive disorder (Potenza, 2014; World Health Organization, 2021) or even a disorder at all (American Psychiatric Association, 2013) but also because of the test used. The screening questionnaire MULTICAGE-CAD-4 (Ewing, 1984) and its Compulsive Spending subscale were employed, indicating the sample is general and appears susceptible to developing this problem rather than being a clinical sample. It would therefore be appropriate to complement the questionnaire with other instruments or qualitative approaches to ensure the presence of CB. Nonetheless, despite being a non-clinical

sample, it provides risk indicators in the general population that can be considered for treatment, and specially for prevention. On the other than, the MULTICAGE-CAD4 scales showed low internal reliability in the present study with Cronbach's alpha values under 0.70. This may be due to the dichotomous response of the items which may reduce the Cronbach alpha values (Adamson & Prion, 2013; Greer et al., 2006). As well, the mixed administration method, the continent in which the sample was recruited and the non-clinical sample may explain the low values observed also in other studies (Esparza-Reig et al., 2021). Therefore, the results should be interpreted with caution and replicated with other samples and measures.

Secondly, the applied questionnaire does not delve into the type of purchases made (clothing, beauty products, food, etc.) nor the means through which they are conducted (online, in-person, etc.), which could be a relevant topic for future research, potentially linking the purchasing behavior to a social component (type of consumption). Thirdly, this is a cross-sectional study. Therefore, prior information about the participants is unknown, and causality cannot be established. It is recommended that future research adopt a longitudinal approach, allowing for the validation and causal interpretation of the results and their theoretical implications.

Additionally, it is important to consider that most of the sample consists of young women, lacking diversity in terms of age and gender. Nonetheless, this aspect is useful for profiling this issue and identifying possible phenomenological differences (Granero, Fernández-Aranda, Baño, et al., 2016). Furthermore, this study does not incorporate a gender perspective, which could be really useful to explore whether gender is related to the manifestation of CB in women, and whether it is presented in a differentiated way with respect to men, as it happens in gambling disorder (Estévez et al., 2023; Macía et al., 2023). At the same time, it should be noted that profiles of women with CB may differ depending on whether they belong to the general population, public hospitals, associations, private clinics or women who have never received treatment.

Finally, the questionnaire was self-administered and primarily collected online, which, despite its advantages, may also have limitations such as social desirability. However, self-administered formats have been shown to maintain the content validity of depression questionnaires (Sanz Fernández et al., 2013).

5. Conclusion

Despite the above, the results of this study allow us to conclude that, on the one hand, there are differences based on certain variables, such as hopelessness and alexithymia, which help identify a profile more prone to developing CB (Alemis & Yap, 2013; Granero, Fernández-Aranda, Mestre-Bach, et al., 2016; Mestre-Bach et al., 2022; Rose & Segrist, 2014). This not only contributes to the profiling of this disorder but also helps identify the type of population that may be more vulnerable, allowing for a transdiagnostic approach to preventive therapies targeting these aspects. Precisely, given the characteristics of this population, youth may be at a higher risk of developing CB, so interventions, both preventive and therapeutic, should focus on the differences between younger individuals with CB and adults with CB, as well as their

development from an early stage. Moreover, this research contributes by adding more variables that may be related to CB, helping to connect this disorder with other addictive behaviors that also share a relationship with alexithymia (Marchetti et al., 2019) and hopelessness (Bani-Rshaid & Alghraibeh, 2017). Thus, CB may meet more criteria to be considered an addictive disorder, as it presents alexithymic traits, hopelessness, and maladaptive emotion regulation strategies seen in other such disorders, like excessive mobile phone or internet use (Elmas et al., 2017; Gao et al., 2018; Schimmenti et al., 2017).

Moreover, the results indicated that both variables were related to CB, distinguishing groups based on their presence—showing that a higher probability of CB was associated with a greater presence of these variables. This finding is useful not only for the previously mentioned profiling but also for studying these variables in other addictive disorders, as has been done in previous research (Alemis & Yap, 2013; Grano, Fernández-Aranda, Mestre-Bach, et al., 2016; Mestre-Bach et al., 2022; Rose & Segrist, 2014). It is also important to highlight the mediating role of alexithymia between hopelessness and CB, reinforcing its significance in the development and/or maintenance of CB. Consequently, interventions should focus specifically on the presence of these variables in individuals more prone to CB, as well as on treatments aimed at developing effective emotion-regulation strategies to improve this type of addictive behavior.

Finally, as a closing remark for this study, it is necessary to highlight the importance of further investigating affective variables and emotion regulation, such as alexithymia and hopelessness. These skills are fundamental for a population that increasingly presents disorders at younger ages and faces greater challenges in recognizing and identifying their moods, acting accordingly, and applying appropriate strategies.

5.1. Implications

To sum up, the present study highlights the relevance of emotional and cognitive variables—particularly hopelessness and alexithymia—in understanding compulsive buying behavior in youths. Notably, alexithymia was found to mediate the relationship between hopelessness and compulsive buying, suggesting that difficulties in emotional awareness and expression may play a key role in the development of this risky behavior.

These findings have important practical and preventive implications. First, they underscore the need to assess emotional processing and hopelessness in clinical and preventive settings, especially among young populations at risk. Second, they contribute to the theoretical framing of compulsive buying as a behavioral addiction, offering a psychological profile that could inform early detection and targeted interventions. Finally, the results open new avenues for exploring similar emotional mechanisms in other impulse-control or behavioral addiction disorders.

CRediT authorship contribution statement

A. Estévez: Supervision, Resources, Project administration, Funding acquisition. **A.M. Iglesias-Faba:** Writing – original draft, Conceptualization. **M. Herrero:** Formal analysis, Data curation. **L. Macía:** Writing – review & editing, Supervision, Methodology, Investigation, Conceptualization.

Consent

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

Ethics approval

The Institutional Review Board of the University of Deusto approved the study (ETK-17/20-21). This study was performed following the principles of the Declaration of Helsinki.

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Declaration of competing interest

All authors declare no conflicts of interest or financial interest.

Data availability

The datasets generated during and/or analyzed during the current study are not publicly available due to confidentiality.

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