






# Prevention Approaches for Compulsive Buying-Shopping Disorder

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**Abstract:** *Aims:* With the increase of online shopping and cashless payment, (online) compulsive buying-shopping disorder (CBSD) has become an increasingly important field of research. However, little attention has been paid to its prevention. Our aim is to identify prevention programs for CBSD respectively to propose prevention approaches for CBSD based on the literature on (behavioral) addictions. *Methodology:* A review of the literature was conducted. Two databases were used. Studies should refer to the prevention of CBSD and describe prevention concepts to be screened. *Results and discussion:* The search did not reveal any prevention programs focusing on CBSD beyond preliminary work from over 25 years ago. Potential content of prevention programs for CBSD based on prevention approaches for other behavioral addictions and risk factors of CBSD was outlined. For universal prevention, psychoeducation should reach (university) students and apprentices. Selective prevention should include social norms interventions, psychoeducation and low-threshold interventions. Indicated prevention should comprise group settings with several sessions. Self-observation, managing finances, procrastination, emotion regulation should be covered. Counselors at e.g., universities should be educated about CBSD. Referral to treatment should be considered for persons at-risk for CBSD. *Conclusions:* These suggested preventive offers should be further concretized and empirically evaluated.

**Keywords:** compulsive buying-shopping disorder, prevention, social norms intervention

## Präventionsprogramme für die zwanghafte Kauf-Shopping-Störung

**Zusammenfassung:** *Hintergrund und Ziel:* Mit der Zunahme von Online Shopping sowie bargeldlosen und Online-Zahlungssystemen ist die zwanghafte (Online-) Kauf-Shopping-Störung (im englischsprachigen Artikel als CBSD bezeichnet) ein zunehmend relevanteres Forschungsfeld geworden. Trotzdem wurde der Prävention dieser Störung bislang wenig Aufmerksamkeit gewidmet. Das Ziel dieser Arbeit ist es, Präventionsprogramme für die zwanghafte Kauf-Shopping-Störung zu identifizieren. Falls keine Präventionsprogramme existieren, sollen Präventionsansätze basierend auf der Literatur zu (Verhaltens-)Süchten abgeleitet werden. *Methoden:* Es wurde ein Überblick über die Literatur erstellt. Zwei Datenbanken wurden genutzt und Artikel sollten sich auf die Prävention der zwanghaften Kauf-Shopping-Störung beziehen und Präventionskonzepte beschreiben, um gescreent zu werden. *Ergebnisse und Diskussion:* Die Suche ergab über Vorarbeiten von vor über 25 Jahren hinaus keine Präventionsprogramme, die auf die zwanghafte Kauf-Shopping-Störung fokussieren. Daher wurden potenzielle Inhalte für Präventionskonzepte basierend auf Präventionsprogrammen anderer Verhaltenssüchte und Risikofaktoren der zwanghaften Kauf-Shopping-Störung skizziert. Auf der Ebene der universellen Prävention sollten psychoedukative Angebote bei Schüler\_innen, Studierenden und Auszubildenden eingesetzt werden. Selektive Prävention sollte „Soziale Normen“-Interventionen, Psychoedukation und niederschwellige Interventionen umfassen. Indizierte Prävention könnte komplexere Präventionsansätze erfordern, die auf Gruppenangebote in mehreren Sitzungen zurückgreifen. Es sollten u. a. Selbstbeobachtung, finanzbezogenes Wissen, finanzielle Entscheidungsfindung, Prokrastination, materielle Werteorientierung und weitere Aspekte behandelt werden. Mitarbeitende von Beratungsstellen an (Berufs-)Schulen und Hochschulen sowie von Suchtberatungsstellen sollten über die zwanghafte Kauf-Shopping-Störung geschult werden. Eine Weitervermittlung in psychotherapeutische Behandlung sollte für Personen mit riskantem Kaufverhalten erwogen werden. *Schlussfolgerung:* Diese Präventionsansätze sollten weiter konkretisiert und empirisch evaluiert werden.

**Keywords:** zwanghafte Kauf-Shopping-Störung, Prävention, Soziale Normen-Intervention

## Introduction

Compulsive buying-shopping disorder (CBSD) is characterized by excessive buying/shopping, loss of control despite negative consequences, inadequate use of bought products and strong mental preoccupations with buying/shopping (Müller, Laskowski, Trotzke et al., 2021). Recent research rather points towards a conceptualization of CBSD as behavioral addiction (Brand, 2022; Kyrios et al., 2018; Mestre-Bach et al., 2017; Müller et al., 2019; Thomas et al., 2023) although also conceptualizations of CBSD as obsessive-compulsive disorder (e.g., Black et al., 2001, 2007) or impulse-control disorder (e.g., Dell’Osso et al., 2008) exist. CBSD is estimated to affect about 5% of the general population (Maraz et al., 2016), leads to clinically relevant distress, impairments in important areas of functioning, enormous societal and individual costs and potentially high debts (Achtziger et al., 2015; Zhang et al., 2017). From clinical psychological and public health perspective, these adverse effects of CBSD should be prevented or minimized.

Given the simplicity and permanent accessibility of online shopping, online CBSD has gained attention (Müller et al., 2022). It still needs to be resolved if online CBSD represents an online subtype of CBSD or a standalone specific internet-use disorder (Müller, Laskowski, Wegmann et al., 2021). Online spending has been favored by electronic payments which bear the risk of losing track of finances and facilitate overspending (Lo & Harvey, 2011; Pham et al., 2012). Also, ‘buy now, pay later’ options can foster indebtedness, especially in patients with CBSD. It seems plausible that the specifics of online shopping (e-marketing, social commerce) and the convergence of social networks and shopping platforms contribute to the high prevalence of CBSD, calling for the development of prevention approaches.

The aim of this study was to identify prevention programs for CBSD. As few or no prevention programs for CBSD were expected to be found, the aim was further to outline potential content of prevention programs and to identify potential target groups.

## Methods

### Search of the Literature to Identify Existing CBSD Prevention Approaches

A narrative review of the literature was conducted. Articles should refer to CBSD (or a synonym, e.g., shopping addiction, compulsive buying, oniomania, pathological buying, problematic shopping) and prevention in the title or the

abstract. There were no restrictions regarding year of publication. Articles in English or German were considered. Search engines were PubMed and Scopus. Articles were considered to be relevant if they described prevention programs for CBSD. In case, the work identified by the literature search referred to another source in which prevention content was described, this source was considered as well.

### Identification of Content and Target Groups for CBSD Prevention Measures

As mentioned above, another aim was to identify content and target groups for CBSD prevention measures. This was carried out based on the literature on CBSD and its risk factors (as indicated by CBSD-risk, CBSD-r). Other prevention components are based on clinical research/clinical trials regarding CBSD (as indicated by CBSD-clinical, CBSD-c). Furthermore, the literature on behavioral addictions in general was used to identify content of established prevention measures for other behavioral addictions (as indicated by BA) and internet-use disorders (as indicated by IUD) that might be useful for CBSD as well. Also, the literature on substance use disorders has been considered as a source of prevention approaches that could be applied to CBSD (as indicated by SUD). Clinical expertise and findings from clinical research also represented another source to derive prevention content and target groups (as indicated by clinical knowledge, CK).

## Results

### State of The Literature on The Prevention of CBSD

The search did not reveal any prevention programs focusing on CBSD beyond preliminary work from over 25 years ago (Lange, 1999) in which a prevention program that focused on self-esteem is described. This work and subsequent work from Lange (2005) refers to both the importance of self-esteem and materialism as potential factors leading to or facilitating the development of CBSD. The overall lack of prevention approaches for CBSD mirrors the need for prevention concepts in this field that has been emphasized in the literature (e.g., Müller et al., 2023). In the following, potential target groups and content for prevention approaches will be outlined. Research indicates that risk factors of CBSD and proven components of prevention strategies of other behavioral addictions (Vondráčková & Gabrhelík, 2016) and internet-use disorders should be considered.

## Specific Target Groups

The first manifestation of CBSD usually occurs in adolescence (Black, 2001), the third (Lejoyeux & Weinstein, 2010) or fourth life decade (Granero et al., 2016). Symptom severity of CBSD (Dittmar, 2005a) and risky buying behavior (Augsburger et al., 2020) is more pronounced among younger persons. The prevalence of CBSD is estimated to be higher in university students than in the general population (Maraz et al., 2016). This may be due to an ongoing identity building process, good access to electronic payments, rather little financial knowledge, present-oriented time perspective and being only partly responsible for debts generated (Brougham et al., 2011; Unger et al., 2014). Furthermore, problematic buying behavior was placed in the context of higher levels of perceived school stress (Roberts & Roberts, 2012). Also, apprentices, trainees and other young employees often earn a rather low start salary so that they might also be at an increased risk of developing CBSD (Koran et al., 2006). For these groups, a particular need for prevention arises.

## Approaches for Prevention Programs

The proposed prevention approaches are based on risk factors of CBSD (as indicated by CBSD-r), clinical expertise (as indicated by CK) and clinical research/clinical trials regarding CBSD (as indicated by CBSD-c). Furthermore, the literature on prevention programs on behavioral addictions (as indicated by BA) represents another source for CBSD prevention approaches as we consider CBSD a behavioral addiction (see above). Behavioral addictions such as CBSD also share features with substance use disorders so that some concepts originating from the substance use disorder research have been referred to (as indicated by SUD) (Brand, 2022). As it is yet to clarify if online CBSD represents an online subtype of CBSD or a standalone internet-use disorder (see above) we have also included the literature regarding internet-use disorders (IUD) to derive modules for (online) CBSD prevention programs. Although concrete evidence comparing in-store CBSD and online CBSD is lacking, it is hypothesized that there can be many shared aspects such as overspending, debts, impaired control over purchasing etc. and thus in-store CBSD prevention approaches might, at least partly, be used for online CBSD as well.

### Universal Prevention

Universal prevention attempts to address the general population (e.g., Manjunatha et al., 2011). Universal prevention for CBSD should rely on psychoeducational approaches (see Figure 1) and might be implemented e.g., into

school by programs comparable to dental check-ups at school and should comprise the following content.

#### *Psychoeducational Approaches*

For universal prevention, psychoeducational offers could be implemented to provide an overview of CBSD and its negative consequences. Also, the risks of cashless payment, ‘buy now, pay later’ options and convergence of shopping applications with social networks could be covered. Consequences of non-compliance with payment deadlines (e.g., debt collection, legal proceedings) could be emphasized. Information material such as flyers, or material for educative purposes regarding debts and non-compliance with payment deadlines is frequently used at debt counselling centers or e.g., YoungCaritas in Germany/Switzerland. Information material regarding excessive use of the internet or digital media (which might partly apply for online CBSD as well) can be derived from Bundeszentrale für gesundheitliche Aufklärung (BZgA, Germany: e.g., “ins Netz gehen”) or klicksafe. Furthermore, persuasion knowledge, persuasive mechanisms in advertisements, social commerce (Mikołajczak-Degrauwe & Brengman, 2014) and materialistic value orientation (MVO), a known risk factor of CBSD (e.g., Dittmar et al., 2005b), could be integrated. Psychoeducation can be conducted video-based to reach a wide audience and limit costs and efforts (Turel et al., 2015). Furthermore, parents of minors could also be asked to participate (Bender et al., 2020), as they often place online orders for their children. Reports of persons suffering from CBSD (Sohn & Choi, 2014) and persons working with affected individuals (e.g., lawyers, psychotherapists) might refine psychoeducation.

### Selective Prevention

Selective prevention is to reach persons e.g., from a high-risk group that have not yet shown symptoms of a disease or disorder (e.g., Manjunatha et al., 2011). In the context of CBSD, high-risk groups might be the groups in which an elevated prevalence estimate has been reported such as (university) students, apprentices or trainees (see above). Interventions in selective prevention might comprise psychoeducational approaches combined with low threshold advice and social norms interventions (see Figure 1).

#### *Psychoeducational Approaches*

Psychoeducational approaches in selective prevention could also use the above-mentioned content and could be particularly addressed to persons who regularly engage in online shopping. Psychoeducation could be accompanied by low threshold advice e.g., to keep a (digital) household diary with entries and expenditures, a purchasing record (products, and total expenditures) and to use the “24-hours rule” (reserve purchase for 24 hours and only buy if still

Symptom severity	→		
Level of prevention	Universal prevention	Selective prevention	Indicated prevention
Target population	General population	Students, university students and apprentices who shop (online) regularly	Students, university students and apprentices who shop (online) much or too much
Interventions	<ul style="list-style-type: none"> <li>- Psychoeducation (information regarding CBSD, risk factors of cashless payment methods, consequences of overspending, persuasion knowledge, reports of patients etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Psychoeducation</li> <li>- Low-threshold interventions to regulate buying behavior (e.g., 24-hours rule)</li> <li>- Social norms interventions</li> </ul>	<p>Group counseling offers:</p> <ul style="list-style-type: none"> <li>- Psychoeducation</li> <li>- Self-observation</li> <li>- Tackling material value orientation</li> <li>- Financial education</li> <li>- Tackling procrastination</li> <li>- Further modules</li> </ul>
Further challenges	<ul style="list-style-type: none"> <li>- Effective and timely dissemination of psychoeducation</li> <li>- Means to reach large part of target population</li> </ul>	<ul style="list-style-type: none"> <li>- Effectiveness of social norms interventions in at-risk buying/shopping behavior is yet to prove</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriate screening procedures</li> <li>- Compressing rather time-consuming prevention concepts</li> <li>- Educating counselors (e.g., at universities) about CBSD</li> <li>- Ameliorating referral to psychotherapy</li> </ul>

**Figure 1.** Overview of prevention approaches in the field of compulsive buying-shopping disorder by level of prevention. CBSD = compulsive buying-shopping disorder.

considered necessary; Müller, Laskowski et al., 2020) to further strengthen self-observation and prevent impulsive purchases.

#### *Social Norms Intervention*

Social comparison processes and the need to belong seem to play a role in the development of MVO, a risk factor for CBSD (Islam et al., 2018). Also, overall social influences appear to be positively related with CBSD (Roberts, 2000). It is still discussed if excessive buying is an intention to act out need to belong or to enhance social status (Roberts, 2000) as shown by findings regarding online CBSD, social comparison and social networks use (Pahlavan Sharif et al., 2022; Zheng et al., 2020). The results concerning social influences and CBSD are mixed and need concretization (Khorrami et al., 2015; Kwak et al., 2006). However, one can assume that purchasing activities of persons with problematic buying behavior are related with social processes. Social norms and social influences could be used to counteract this behavior: Previous research showed that the influence of a sense of belonging in a virtual community affects normative conformity which has a negative impact on problematic buying behavior (Lee & Park, 2008). Virtual communities remind consumers of social norms and might thus possess preventive potential.

Social norms interventions (SNI) utilize comparable mechanisms and could also be a potential prevention approach for problematic buying behavior. SNI build upon a misperception of potentially harmful behaviors among their peers (e.g., female university students), in which a subgroup overestimates the behavior of their peers (Berkowitz, 2005). This overestimation contributes to an above-average behavior (e.g., alcohol use) by the individual who misperceived peer norms (Berkowitz, 2005). The SNI intends to correct this misperception by providing the actual norm and thus the feedback that the peer norm is lower than assumed (Perkins et al., 2010). Consequently, a correction of the perceived norm should occur (i.e., approximation to the actual norm) (Perkins et al., 2010). This should be followed by a change in behavior in the sense of a reduction of the previously above-average behavior. SNI have been employed in many public health and health psychological contexts (e.g., alcohol and THC use, Foxcroft et al., 2015; Pischke et al., 2021). Foxcroft et al. (2015) argued that SNI might only cause small effects regarding the reduction of alcohol consumption. However, a previous work of this working group described certain SNI as generally effective (Moreira et al., 2009). Also, the Foxcroft et al. (2015) review has now been published almost 10 years ago and thus does not capture more recent evidence in favor of the effectiveness of SNI (e.g.,



Pischke et al., 2021; Vallentin-Holbech et al., 2018; Wolter et al., 2021). SNI might also be considered effective if small effect sizes are derived as small effect sizes might produce an important preventive benefit at large scale (e.g., at population level, cf. “prevention paradox”; Dotson et al., 2015, p. 11). Still, to increase their effectiveness, they could be included into a prevention system in which several components of prevention are combined rather than carrying SNI out as a standalone intervention (Foxcroft et al., 2015). SNI can be conducted cost-effectively via email or online (Wolter et al., 2021). SNI have not yet found their way into prevention research regarding CBSD although progress is being made in other behavioral addictions such as gambling disorder (Arden-Close et al., 2023; Neighbors et al., 2015).

A SNI that focuses on risky or problematic buying behavior can be performed using the following procedure as an online intervention e.g., for students (procedure analogous to Lesener et al., 2022):

1. *Recording own buying behavior*, e.g., via frequency of purchases: ‘How often do you buy something [online]?’
2. *Recording perceived norms of peers’ buying behavior*, e.g., ‘How often do you think the average male student your age buys something [online]?’
3. *Feedback of own buying behavior, perceived and actual norm of peers’ buying behavior*, e.g., ‘You stated that you buy something [online] three times a week. You guessed that an average male student your age buys something [online] about four times a week. In fact, an average male student your age buys something [online] about once a week.’
4. *Re-recording own buying behavior and perceived norms of peers’ buying behavior*, Analogous to 1. and 2.

Steps 1 and 2 could take place at a first time point, step 3 at a second and step 4 at a third time point (analogous to Lesener et al., 2022). The interval between the second and third time point should be chosen in such a way that a norm correction and a change in behavior (measured with a difference value of the two time points) can occur. A successful intervention should reduce misperception of the norm and lead to a more appropriate buying behavior.

### Indicated Prevention

Indicated prevention is often more costly than universal or selective prevention and is directed towards persons that show initial symptoms in the sense of an early intervention (e.g., Stockings et al., 2016). Persons that developed CBSD symptoms rather recently or that buy too much (online) should be screened by use of questionnaires and should receive a combined prevention approach as follows (see Figure 1).

### *Screening Procedure to Identify Persons with Risky Buying Behavior*

Many questionnaires used to identify persons with CBSD do not properly assess diagnostic criteria for CBSD (e.g., as proposed by Müller, Laskowski, Trotzke et al., 2021), as they contain outdated items or are not (sufficiently) validated in clinical samples (Maraz et al., 2015). The Pathological Buying Screener (PBS) is a clinically validated 13-item screening tool for CBSD applying a cut-off value of 29 for pathological use (Müller, Trotzke et al., 2021; Müller et al., 2015). The PBS threshold has high sensitivity and specificity (Müller, Trotzke et al., 2021). PBS values below the cutoff can be used to identify risky buying behavior. Complementing regular health monitoring at universities by the PBS represents a beneficial way to identify university students that would benefit from indicated prevention.

### *Group Counseling Offers with Combined Preventive Offer*

Offers with group counseling should comprise several sessions in which, among others, the risk factors of CBSD should be addressed. Specifically, the following modules should be included:

- *Psychoeducational approaches* (see above): have proven effective in patients with CBSD and in indicated prevention of gaming disorder/internet addiction (Lindenberg et al., 2022; Nicoli de Mattos et al., 2020). (IUD/BA, CBSD-c, CK)
- *Self-observation* with buying protocols, tracking usage time of online shopping applications (Benson et al., 2014; King & Delfabbro, 2017) and behavioral analysis. (IUD/BA, CBSD-c, CK)
- *MVO* should be addressed (Mestre-Bach et al., 2017; Lange, 2005) in early age because MVO is part of contemporary consumer society (Dittmar, 2005a). Expectations regarding products/buying could be subjected to a “reality check“ (Dittmar, 2005a). Previous interventions for MVO relied on emotional intelligence trainings (Lekavičienė et al., 2022) or strengthening/integration of self-transcendence and intrinsic goal orientation into daily life (Parker et al., 2020). The effectiveness of these approaches needs further evaluation. (CBSD-r, CK)
- *Self-esteem* has been identified as an important risk factor for the development of CBSD (Biolcati, 2017; Adamczyk, 2024) and has already been used as mechanism of interest in a prevention study in CBSD (Lange, 1999, 2005). Interventions might comprise sources of self-esteem (internal vs. external sources), analysis of the status quo regarding self-esteem and understanding how CBSD functions as maladaptive strategy attempting to overcome low self-esteem, further resource-oriented interventions to strengthen internal sources of self-esteem, questioning and restructuring biased negative

self-related thoughts and promoting a balanced view with positive and negative aspects about oneself and ideally self-acceptance (Fennell, 2016; Horrell et al., 2014; Kolubinski et al., 2018). (CBSD-r, CK)

- *Financial education* and development of advantageous finance-related structures and behaviors (Alemis & Yap, 2013; Pham et al., 2012) include education regarding CBSD-related mechanisms of cash and cashless payments, use of ‘buy now, pay later’ options, sequence of purchase decisions, raising of credits, implementing constraints for impulsive purchases (e.g., limiting credit cards, reducing mobile and cashless payments) and saving strategies (e.g., transferring part of monthly entries to another bank account). (CBSD-r, CK)
- *Procrastination*, a predictor of internet addiction (Lardinoix et al., 2023) and social networks-use disorder (Müller, Wegmann et al., 2020; Suárez-Perdomo et al., 2022) which is closely linked to (online) CBSD (e.g., Pahlevan Sharif et al., 2022; Zheng et al., 2020), could be addressed by behavioral modification (Lindenberg et al., 2022). Clinical experience also emphasizes a link between procrastination and behavioral addictions/internet-use disorders (Hofstedt et al., 2023) and potentially also online CBSD. (IUD, CK)
- *Impulsive and automatic cognitions, affects and behaviors*, e.g., by working memory trainings (Gladwin et al., 2017) with the aim to strengthen control abilities over problem behaviors (Wiers et al., 2013) or cognitive bias modification tasks (Kakoschke et al., 2017; Snippe et al., 2019) with the aim of a reduction of biased cognitive processing (Wiers et al., 2013). The first category of trainings rather strengthens the reflective part (Wiers et al., 2013) whereas the second category of trainings rather tackles the impulsive/automatic aspect (Wiers et al., 2013) of CBSD as suggested by the reflective-impulsive model (Deutsch & Strack, 2020). (SUD)
- *Further modules*, if indicated:
  - Stress management (Otero-López et al., 2021; Villardefrancos & Otero-López, 2016). (based on CBSD research although it is yet to be resolved if stress is an antecedent or a consequence of CBSD or both, Thomas et al., 2024)
  - Emotion regulation strategies (Otero-López et al., 2021; Lindenberg et al., 2022). (BA/IUD and CBSD research)
  - Strengthening person-related factors (e.g., sense of competence, discipline, self-efficacy; Otero-López et al., 2021). (CBSD-r/CBSD research-based)

#### Low-Threshold Counseling Services

The specialized centers for addiction counseling and prevention (Laskowski et al., 2021; Petersen et al., 2010) and psychological counseling centers e.g., at universities, are

the first point of contact for mental disorders and psychosocial problems of (university) students or apprentices. They offer initial assessment, referral to therapeutic services and are increasingly frequented by university students (Hofmann et al., 2017). Counselors should be particularly trained with regard to CBSD and should obtain information material for persons at risk for CBSD. The aim should be to refer them to treatment earlier, as patients often do not seek treatment until years later (Müller et al., 2008). Persons at risk for CBSD should be provided with contact information of psychotherapists/psychiatrists and, if necessary, inpatient treatment options. Currently, at least in Germany, there is no registry of therapists or units that are specialized in the treatment of CBSD (for an overview of German inpatient treatment options: Müller, Meyer et al., 2020). An inclusion of CBSD into the classification systems of mental disorders and consequently an inclusion into training programs of psychotherapists in training would even more strongly ameliorate the clinical care of persons with CBSD.

## Conclusions

To date and to our knowledge, there are no prevention approaches for CBSD beyond preliminary work from over 25 years ago. Given a high estimated prevalence of CBSD, particularly in young persons and many aggravating changes (e.g., online shopping, mobile payment, social commerce), there is an urgent need for specific prevention programs for CBSD. Universal prevention should create awareness for CBSD through psychoeducation. In selective and indicated prevention, persons with risky/problematic buying behavior should undergo social norms intervention (selective prevention) and group counseling with several sessions covering psychoeducation, self-observation, behavioral analysis, management of finances and emotion regulation (indicated prevention). These starting points should be further concretized and then empirically evaluated.

## References

- Achtziger, A., Hubert, M., Kenning, P., Raab, G., & Reisch, L. (2015). Debt out of control: The links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49, 141–149. <https://doi.org/10.1016/j.joep.2015.04.003>
- Adamczyk, G. (2024). Pathological buying on the rise? Compensative and compulsive buying in Poland in the pre- and (post-) pandemic times. *Plos One*, 19(3), Article e0298856. <https://doi.org/10.1371/journal.pone.0298856>

- Alemis, M.C., & Yap, K. (2013). The role of negative urgency impulsivity and financial management practices in compulsive buying. *Australian Journal of Psychology*, 65(4), 224–231. <https://doi.org/10.1111/ajpy.12025>
- Arden-Close, E., Thomas, S., Bush-Evans, R., Wang, R., Bolat, E., Hodge, S., Phalp, K., & McAlaney, J. (2023). Social norms and goal-setting interventions to promote responsible gambling in low-to-moderate online gamblers: Protocol for a four-arm randomised controlled feasibility study. *BMJ Open*, 13(3), Article e065400. <https://doi.org/10.1136/bmjopen-2022-065400>
- Augsburger, M., Wenger, A., Haug, S., Achab, S., Khazaal, Y., Billieux, J., & Schaub, M.P. (2020). The concept of buying-shopping disorder: Comparing latent classes with a diagnostic approach for in-store and online shopping in a representative sample in Switzerland. *Journal of Behavioral Addictions*, 9(3), 808–817. <https://doi.org/10.1556/2006.2020.00051>
- Bender, P.K., Kim, E.-L., & Gentile, D.A. (2020). Gaming disorder in children and adolescents: Risk factors and preventive approaches. *Current Addiction Reports*, 7(4), 553–560. <https://doi.org/10.1007/s40429-020-00337-5>
- Benson, A.L., Eisenach, D., Abrams, L., & van Stolk-Cooke, K. (2014). Stopping overshopping: A preliminary randomized controlled trial of group therapy for compulsive buying disorder. *Journal of Groups in Addiction & Recovery*, 9(2), 97–125. <https://doi.org/10.1080/1556035X.2014.868725>
- Berkowitz, A.D. (2005). An overview of the social norms approach. In L.P. Lederman & L.P. Stewart (Eds.), *Challenging the culture of college drinking: A socially situated health communication campaign* (pp. 193–214). Hampton Press.
- Biolcati, R. (2017). The role of self-esteem and fear of negative evaluation in compulsive buying. *Frontiers in Psychiatry*, 8, Article 74. <https://doi.org/10.3389/fpsy.2017.00074>
- Black, D.W. (2001). Compulsive buying disorder: Definition, assessment, epidemiology and clinical management. *CNS Drugs*, 15, 17–27. <https://doi.org/10.2165/00023210-200115010-00003>
- Black, D.W. (2007). A review of compulsive buying disorder. *World Psychiatry*, 6(1), 14–18.
- Brand, M. (2022). Can internet use become addictive? *Science*, 376(6595), 798–799. <https://doi.org/10.1126/science.abn4189>
- Brougham, R.R., Jacobs-Lawson, J.M., Hershey, D.A., & Trujillo, K.M. (2011). Who pays your debt? An important question for understanding compulsive buying among American college students. *International Journal of Consumer Studies*, 35(1), 79–85. <https://doi.org/10.1111/j.1470-6431.2010.00923.x>
- Dell'Osso, B., Allen, A., Altamura, A.C., Buoli, M., & Hollander, E. (2008). Impulsive-compulsive buying disorder: Clinical overview. *Australian & New Zealand Journal of Psychiatry*, 42(4), 259–266. <https://doi.org/10.1080/00048670701881561>
- Deutsch, R., & Strack, F. (2020). Changing behavior using the reflective-impulsive model. In M.S. Hagger, L.D. Cameron, K. Hamilton, N. Hankonen & T. Lintunen (Eds.), *The handbook of behavior change* (pp. 164–177). Cambridge University Press.
- Dittmar, H. (2005a). Compulsive buying—a growing concern? An examination of gender, age, and endorsement of materialistic values as predictors. *British Journal of Psychology*, 96(4), 467–491. <https://doi.org/10.1348/000712605X53533>
- Dittmar, H. (2005b). A new look at “compulsive buying”: Self-discrepancies and materialistic values as predictors of compulsive buying tendency. *Journal of Social and Clinical Psychology*, 24(6), 832–859. <https://psycnet.apa.org/doi/10.1521/jscp.2005.24.6.832>
- Dotson, K.B., Dunn, M.E., & Bowers, C.A. (2015). Stand-alone personalized normative feedback for college student drinkers: A meta-analytic review, 2004 to 2014. *PloS One*, 10(10), Article e0139518. <https://doi.org/10.1371/journal.pone.0139518>
- Fennell, M. (2016). *Overcoming low self-esteem: A self-help guide using cognitive behavioural techniques* (2nd ed.). Hachette UK Limited.
- Foxcroft, D.R., Moreira, M.T., Almeida Santimano, N.M.L., & Smith, L.A. (2015). Social norms information for alcohol misuse in university and college students. *Cochrane Database of Systematic Reviews*, 12, Article CD006748. <https://doi.org/10.1002/14651858.CD006748.pub4>
- Gladwin, T.E., Wiers, C.E., & Wiers, R.W. (2017). Interventions aimed at automatic processes in addiction: Considering necessary conditions for efficacy. *Current Opinion in Behavioral Sciences*, 13, 19–24. <https://doi.org/10.1016/j.cobeha.2016.08.001>
- Granero, R., Fernández-Aranda, F., Mestre-Bach, G., Steward, T., Baño, M., Del Pino-Gutiérrez, A., Moragas, L., Mallorquí-Bagué, N., Aymami, N., Gómez-Peña, M., Tárrega, S., Menchón, J.M., & Jiménez-Murcia, S. (2016). Compulsive buying behavior: Clinical comparison with other behavioral addictions. *Frontiers in Psychology*, 7, Article 914. <https://doi.org/10.3389/fpsyg.2016.00914>
- Hofmann, F.-H., Sperth, M., & Holm-Hadulla, R.M. (2017). Psychische Belastungen und Probleme Studierender [Mental stress and problems of students]. *Psychotherapeut*, 62(5), 395–402. <https://doi.org/10.1007/s00278-017-0224-6>
- Horrell, L., Goldsmith, K.A., Tylee, A.T., Schmidt, U.H., Murphy, C.L., Bonin, E.M., Beecham, J., Kelly, J., Raikundalia, S., & Brown, J.S. (2014). One-day cognitive-behavioural therapy self-confidence workshops for people with depression: Randomised controlled trial. *British Journal of Psychiatry*, 204(3), 222–233. <https://doi.org/10.1192/bjp.bp.112.121855>
- Hofstedt, A., Mide, M., Arvidson, E., Ljung, S., Mattiasson, J., Lindskog, A., & Söderpalm-Gordh, A. (2023). Pilot data findings from the Gothenburg treatment for gaming disorder: A cognitive behavioral treatment manual. *Frontiers in Psychiatry*, 14, Article 1162492. <https://doi.org/10.3389/fpsy.2023.1162492>
- Islam, T., Sheikh, Z., Hameed, Z., Khan, I.U., & Azam, R.I. (2018). Social comparison, materialism, and compulsive buying based on stimulus-response-model: A comparative study among adolescents and young adults. *Young Consumers*, 19(1), 19–37. <https://doi.org/10.1108/YC-07-2017-00713>
- Kakoschke, N., Kempes, E., & Tiggemann, M. (2017). Approach bias modification training and consumption: A review of the literature. *Addictive Behaviors*, 64, 21–28. <https://doi.org/10.1016/j.addbeh.2016.08.007>
- Khorrani, M.S., Esfidani, M.R., & Delavari, S. (2015). The effect of situational factors on impulse buying and compulsive buying: Clothing. *International Journal of Management, Accounting and Economics*, 2(8), 823–837.
- King, D.L., & Delfabbro, P.H. (2017). Prevention and policy related to internet gaming disorder. *Current Addiction Reports*, 4(3), 284–292. <https://doi.org/10.1007/s40429-017-0157-8>
- Kolubinski, D.C., Frings, D., Nikčević, A.V., Lawrence, J.A., & Spada, M.M. (2018). A systematic review and meta-analysis of CBT interventions based on the Fennell model of low self-esteem. *Psychiatry Research*, 267, 296–305. <https://doi.org/10.1016/j.psychres.2018.06.025>
- Koran, L.M., Faber, R.J., Aboujaoude, E., Large, M.D., & Serpe, R.T. (2006). Estimated prevalence of compulsive buying behavior in the United States. *American Journal of Psychiatry*, 163(10), 1806–1812. <https://doi.org/10.1176/ajp.2006.163.10.1806>
- Kwak, H., Zinkhan, G.M., DeLorme, D.E., & Larsen, T. (2006). Revisiting normative influences on impulsive buying behavior and an extension to compulsive buying behavior: A case from South Korea. *Journal of International Consumer Marketing*, 18(3), 57–80. [https://doi.org/10.1300/J046v18n03\\_04](https://doi.org/10.1300/J046v18n03_04)
- Kyrios, M., Trotzke, P., Lawrence, L., Fassnacht, D.B., Ali, K., Laskowski, N.M., & Müller, A. (2018). Behavioral neuroscience of buying-shopping disorder: A review. *Current Behavioral Neu-*



- rosience Reports, 5, 263–270. <https://doi.org/10.1007/s40473-018-0165-6>
- Lange, E. (1999). Kompensatorischer Konsum und Kaufsucht bei Jugendlichen: Theoretische Grundlagen und empirische Ergebnisse [Compensatory consumption and compulsive buying among adolescents: Theoretical foundations and empirical results]. In Katholische Landesarbeitsgemeinschaft Kinder- und Jugendschutz Nordrhein-Westfalen e.V. (Ed.), *In & Out. Anregungen zur Konsumerziehung in der Kinder- und Jugendarbeit [In & Out. Suggestions for consumer education in child and youth work]* (S. 11–35). Katholische Landesarbeitsgemeinschaft Kinder- und Jugendschutz Nordrhein-Westfalen e.V.
- Lange, E. (2005). Kompensatorischer Konsum und Kaufsucht bei Jugendlichen [Compensatory consumption and compulsive buying among adolescents]. *Nervenheilkunde*, 24(10), 919–924. <https://doi.org/10.1055/s-0038-1630029>
- Lardinoix, J., Neumann, I., Wartberg, L., & Lindenberg, K. (2023). Procrastination predicts future internet use disorders in adolescents but not vice versa: Results from a 12-month longitudinal study. *Healthcare (Basel)*, 11(9), Article 1274. <https://doi.org/10.3390/healthcare11091274>
- Laskowski, N.M., Ernst, A., Meyer, V., Trillmich, T., & Müller, A. (2021). Inanspruchnahme eines Beratungsangebots zu exzessivem Medienkonsum [Utilization of a counselling service for excessive media use]. *SUCHT*, 67(5), 235–243. <https://doi.org/10.1024/0939-5911/a000728>
- Lee, Y.J., & Park, J. (2008). The mediating role of consumer conformity in e-compulsive buying. *ACR North American Advances*, 35, 387–392.
- Lejoyeux, M., & Weinstein, A. (2010). Compulsive buying. *American Journal of Drug and Alcohol Abuse*, 36(5), 248–253. <https://doi.org/10.3109/00952990.2010.493590>
- Lekavičienė, R., Antinienė, D., Nikou, S., Rūtelionė, A., Šeinauskienė, B., & Vaičiukynaitė, E. (2022). Reducing consumer materialism and compulsive buying through emotional intelligence training amongst Lithuanian students. *Frontiers in Psychology*, 13, Article 932395. <https://doi.org/10.3389/fpsyg.2022.932395>
- Lesener, T., Blaszczyk, W., Dastan, B., Gusy, B., Juchem, C., Pleiss, L.S., & Wolter, C. (2022). *Healthy Campus – Von der Bestandsaufnahme zur Intervention* [Healthy Campus – From stocktaking to intervention]. Freie Universität Berlin.
- Lindenberg, K., Kindt, S., & Szász-Janoch, C. (2022). Effectiveness of cognitive behavioral therapy-based intervention in preventing gaming disorder and unspecified internet use disorder in adolescents: A cluster randomized clinical trial. *JAMA Network Open*, 5(2), Article e2148995. <https://doi.org/10.1001/jamanetworkopen.2021.48995>
- Lo, H.-Y., & Harvey, N. (2011). Shopping without pain: Compulsive buying and the effects of credit card availability in Europe and the Far East. *Journal of Economic Psychology*, 32(1), 79–92. <https://doi.org/10.1016/j.joep.2010.12.002>
- Manjunatha, N., Saddichha, S., Khess, C.R., Murthy, P., & Isaac, M.K. (2011). Prevention of alcohol dependence: Strategies for selective, indicated, and universal prevention. *Substance Abuse*, 32(3), 135–143. <https://doi.org/10.1080/08897077.2011.562736>
- Maraz, A., Eisinger, A., Hende, B., Urbán, R., Paksi, B., Kun, B., Kökönyei, G., Griffiths, M.D., & Demetrovics, Z. (2015). Measuring compulsive buying behaviour: Psychometric validity of three different scales and prevalence in the general population and in shopping centres. *Psychiatry Research*, 225(3), 326–334. <https://doi.org/10.1016/j.psychres.2014.11.080>
- Maraz, A., Griffiths, M.D., & Demetrovics, Z. (2016). The prevalence of compulsive buying: A meta-analysis. *Addiction*, 111(3), 408–419. <https://doi.org/10.1111/add.13223>
- Mestre-Bach, G., Steward, T., Jiménez-Murcia, S., & Fernández-Aranda, F. (2017). Differences and similarities between compulsive buying and other addictive behaviors. *Current Addiction Reports*, 4(3), 228–236. <https://doi.org/10.1007/s40429-017-0153-z>
- Mikolajczak-Degrauwe, K., & Brengman, M. (2014). The influence of advertising on compulsive buying – The role of persuasion knowledge. *Journal of Behavioral Addictions*, 3(1), 65–73. <https://doi.org/10.1556/JBA.2.2013.018>
- Moreira, M.T., Smith, L.A., & Foxcroft, D. (2009). Social norms interventions to reduce alcohol misuse in university or college students. *Cochrane Database of Systematic Reviews*, 3, Article CD006748. <https://doi.org/10.1002/14651858.CD006748.pub2>
- Müller, A., Brand, M., Claes, L., Demetrovics, Z., de Zwaan, M., Fernández-Aranda, F., Frost, R.O., Jiménez-Murcia, S., Lejoyeux, M., Steins-Loeber, S., Mitchell, J.E., Moulding, R., Nedeljkovic, M., Trotzke, P., Weinstein, A., & Kyrios, M. (2019). Buying-shopping disorder: Is there enough evidence to support its inclusion in ICD-11? *CNS spectrums*, 24(4), 374–379. <https://doi.org/10.1017/S1092852918001323>
- Müller, A., Joshi, M., & Thomas, T.A. (2022). Excessive shopping on the internet: Recent trends in compulsive buying-shopping disorder. *Current Opinion in Behavioral Sciences*, 44, Article 101116. <https://doi.org/10.1016/j.cobeha.2022.101116>
- Müller, A., Laskowski, N.M., & Tahmassebi, N. (2020). *Therapie-Tools Kaufsucht* [Therapy tools for compulsive buying-shopping disorder]. Beltz.
- Müller, A., Laskowski, N.M., Thomas, T.A., Antons, S., Tahmassebi, N., Steins-Loeber, S., Brand, M., & Georgiadou, E. (2023). Update on treatment studies for compulsive buying-shopping disorder: A systematic review. *Journal of Behavioral Addictions*, 12(3), 631–651. <https://doi.org/10.1556/2006.2023.00033>
- Müller, A., Laskowski, N.M., Trotzke, P., Ali, K., Fassnacht, D.B., de Zwaan, M., Brand, M., Häder, M., & Kyrios, M. (2021). Proposed diagnostic criteria for compulsive buying-shopping disorder: A Delphi expert consensus study. *Journal of Behavioral Addictions*, 10(2), 208–222. <https://doi.org/10.1556/2006.2021.00013>
- Müller, A., Laskowski, N.M., Wegmann, E., Steins-Loeber, S., & Brand, M. (2021). Problematic online buying-shopping: Is it time to considering the concept of an online subtype of compulsive buying-shopping disorder or a specific internet-use disorder? *Current Addiction Reports*, 8(4), 494–499. <https://doi.org/10.1007/s40429-021-00395-3>
- Müller, A., Meyer, V., Ernst, A., & Laskowski, N.M. (2020). *Exzessiver Medienkonsum: Beratungsleitfaden mit Materialsammlung* [Excessive media use: Counseling guide with collection of materials]. Niedersächsische Landesstelle für Suchtfragen.
- Müller, A., Mueller, U., Silbermann, A., Reinecker, H., Bleich, S., Mitchell, J.E., & de Zwaan, M. (2008). A randomized, controlled trial of group cognitive-behavioral therapy for compulsive buying disorder: Posttreatment and 6-month follow-up results. *Journal of Clinical Psychiatry*, 69(7), 1131–1138. <https://doi.org/10.4088/JCP.v69n0713>
- Müller, A., Trotzke, P., Laskowski, N.M., Brederecke, J., Georgiadou, E., Tahmassebi, N., Hillemecher, T., de Zwaan, M., & Brand, M. (2021). Der Pathological Buying Screener: Validierung in einer klinischen Stichprobe [The Pathological Buying Screener: Validation in a clinical sample]. *Psychotherapie, Psychosomatik, medizinische Psychologie*, 71(7), 294–300. <https://doi.org/10.1055/a-1303-4743>
- Müller, A., Trotzke, P., Mitchell, J.E., de Zwaan, M., & Brand, M. (2015). The Pathological Buying Screener: Development and psychometric properties of a new screening instrument for the assessment of pathological buying symptoms. *PloS One*, 10(10), Article e0141094. <https://doi.org/10.1371/journal.pone.0141094>
- Müller, S.M., Wegmann, E., Stolze, D., & Brand, M. (2020). Maximizing social outcomes? Social zapping and fear of missing out mediate the effects of maximization and procrastination on



- problematic social networks use. *Computers in Human Behavior*, 107, Article 106296. <https://doi.org/10.1016/j.chb.2020.106296>
- Neighbors, C., Rodriguez, L.M., Rinker, D.V., Gonzales, R.G., Agana, M., Tackett, J.L., & Foster, D.W. (2015). Efficacy of personalized normative feedback as a brief intervention for college student gambling: a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 83(3), 500–511. <https://psycnet.apa.org/doi/10.1037/a0039125>
- Nicoli de Mattos, C., Kim, H.S., Marasaldi, R.F., Requião, M.G., de Oliveira, E.C., Zambrano Filomensky, T., & Tavares, H. (2020). A 12-week randomized, double-blind, placebo-controlled clinical trial of Topiramate for the treatment of compulsive buying disorder. *Journal of Clinical Psychopharmacology*, 40(2), 186–190. <https://doi.org/10.1097/JCP.0000000000001183>
- Otero-López, J.M., Santiago, M.J., & Castro, M.C. (2021). Big Five personality traits, coping strategies and compulsive buying in Spanish university students. *International Journal of Environmental Research and Public Health*, 18(2), Article 821. <https://doi.org/10.3390/ijerph18020821>
- Pahlevan Sharif, S., She, L., Yeoh, K.K., & Naghavi, N. (2022). Heavy social networking and online compulsive buying: The mediating role of financial social comparison and materialism. *Journal of Marketing Theory and Practice*, 30(2), 213–225. <https://doi.org/10.1080/10696679.2021.1909425>
- Parker, N., Kasser, T., Bardi, A., Gatersleben, B., & Druckman, A. (2020). Goals for good: Testing an intervention to reduce materialism in three European countries. *European Journal of Applied Positive Psychology*, 4, Article 9.
- Perkins, H.W., Linkenbach, J.W., Lewis, M.A., & Neighbors, C. (2010). Effectiveness of social norms media marketing in reducing drinking and driving: A statewide campaign. *Addictive Behaviors*, 35(10), 866–874. <https://doi.org/10.1016/j.addbeh.2010.05.004>
- Petersen, K.U., Thomasius, R., Schelb, Y., Spieles, H., Trautmann, S., Thiel, R., & Weymann, N. (2010). *Beratungs- und Behandlungsangebote zum pathologischen Internetgebrauch in Deutschland* [Counseling and treatment services for pathological Internet use in Germany]. Universitätsklinikum Hamburg-Eppendorf, Deutsches Zentrum für Suchtfragen des Kindes- und Jugendalters. [https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/5\\_Publikationen/Drogen\\_und\\_Sucht/Berichte/Studie\\_Beratungsangebote\\_pathologischer\\_Internetgebrauch.pdf](https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/5_Publikationen/Drogen_und_Sucht/Berichte/Studie_Beratungsangebote_pathologischer_Internetgebrauch.pdf)
- Pham, T.H., Yap, K., & Dowling, N.A. (2012). The impact of financial management practices and financial attitudes on the relationship between materialism and compulsive buying. *Journal of Economic Psychology*, 33(3), 461–470. <https://doi.org/10.1016/j.joep.2011.12.007>
- Pischke, C.R., Helmer, S.M., Pohlabein, H., Muellmann, S., Schneider, S., Reintjes, R., Schmidt-Pokrzywniak, A., Girbig, M., Krämer, A., Icks, A., Walter, U., & Zeeb, H. (2021). Effects of a brief web-based “social norms”-intervention on alcohol, tobacco and cannabis use among German university students: Results of a cluster-controlled trial conducted at eight universities. *Frontiers in Public Health*, 9, Article 659875. <https://doi.org/10.3389/fpubh.2021.659875>
- Roberts, J.A. (2000). Consuming in a consumer culture: College students, materialism, status consumption, and compulsive buying. *Marketing Management Journal*, 10(2), 76–91.
- Roberts, J.A., & Roberts, C. (2012). Stress, gender and compulsive buying among early adolescents. *Young Consumers*, 13(2), 113–123. <https://doi.org/10.1108/17473611211233440>
- Snippe, L., Boffo, M., Stewart, S.H., Dom, G., & Wiers, R.W. (2019). Innovative treatment approaches in gambling disorder. In A. Heinz, N. Romanczuk-Seiferth & M.N. Potenza (Eds.), *Gambling disorder* (pp. 195–233). Springer.
- Sohn, S.-H., & Choi, Y.-J. (2014). Phases of shopping addiction evidenced by experiences of compulsive buyers. *International Journal of Mental Health and Addiction*, 12(3), 243–254. <https://doi.org/10.1007/s11469-013-9449-y>
- Stockings, E.A., Degenhardt, L., Dobbins, T., Lee, Y.Y., Erskine, H.E., Whiteford, H.A., & Patton, G. (2016). Preventing depression and anxiety in young people: A review of the joint efficacy of universal, selective and indicated prevention. *Psychological Medicine*, 46(1), 11–26. <https://doi.org/10.1017/S0033291715001725>
- Suárez-Perdomo, A., Ruiz-Alfonso, Z., & Garcés-Delgado, Y. (2022). Profiles of undergraduates’ networks addiction: Difference in academic procrastination and performance. *Computers & Education*, 181, Article 104459. <https://doi.org/10.1016/j.compedu.2022.104459>
- Thomas, T.A., Joshi, M., Trotzke, P., Steins-Loeber, S., & Müller, A. (2023). Cognitive functions in compulsive buying-shopping disorder: A systematic review. *Current Behavioral Neuroscience Reports*, 10(1), 1–19. <https://doi.org/10.1007/s40473-023-00255-6>
- Thomas, T.A., Schmid, A.M., Kessling, A., Wolf, O.T., Brand, M., Steins-Loeber, S., & Müller, A. (2024). Stress and compulsive buying-shopping disorder: A scoping review. *Comprehensive Psychiatry*, Article 152482. <https://doi.org/10.1016/j.comppsy.2024.152482>
- Turel, O., Mouttapa, M., & Donato, E. (2015). Preventing problematic internet use through video-based interventions: A theoretical model and empirical test. *Behaviour & Information Technology*, 34(4), 349–362. <https://doi.org/10.1080/0144929X.2014.936041>
- Unger, A., Papastamatelou, J., Yolbulan Okan, E., & Aytas, S. (2014). How the economic situation moderates the influence of available money on compulsive buying of students – A comparative study between Turkey and Greece. *Journal of Behavioral Addictions*, 3(3), 173–181. <https://doi.org/10.1556/JBA.3.2014.018>
- Vallentin-Holbech, L., Rasmussen, B.M., & Stock, C. (2018). Effects of the social norms intervention The GOOD Life on norm perceptions, binge drinking and alcohol-related harms: A cluster-randomised controlled trial. *Preventive Medicine Reports*, 12, 304–311. <https://doi.org/10.1016/j.pmedr.2018.10.019>
- Villardefrancos, E., & Otero-López, J.M. (2016). Compulsive buying in university students: Its prevalence and relationships with materialism, psychological distress symptoms, and subjective well-being. *Comprehensive Psychiatry*, 65, 128–135. <https://doi.org/10.1016/j.comppsy.2015.11.007>
- Vondráčková, P., & Gabrhelík, R. (2016). Prevention of Internet addiction: A systematic review. *Journal of Behavioral Addictions*, 5(4), 568–579. <https://doi.org/10.1556/2006.5.2016.085>
- Wiers, R.W., Gladwin, T.E., Hofmann, W., Salemink, E., & Ridderinkhof, K.R. (2013). Cognitive bias modification and cognitive control training in addiction and related psychopathology: Mechanisms, clinical perspectives, and ways forward. *Clinical Psychological Science*, 1(2), 192–212. <https://doi.org/10.1177/2167702612466547>
- Wolter, C., Lesener, T., Thomas, T.A., Hentschel, A.-C., & Gusy, B. (2021). Finding the right balance: A social norms intervention to reduce heavy drinking in university students. *Frontiers in Public Health*, 9, Article 653435. <https://doi.org/10.3389/fpubh.2021.653435>
- Zhang, C., Brook, J.S., Leukefeld, C.G., De La Rosa, M., & Brook, D.W. (2017). Compulsive buying and quality of life: An estimate of the monetary cost of compulsive buying among adults in early midlife. *Psychiatry Research*, 252, 208–214. <https://doi.org/10.1016/j.psychres.2017.03.007>
- Zheng, Y., Yang, X., Zhou, R., Niu, G., Liu, Q., & Zhou, Z. (2020). Upward social comparison and state anxiety as mediators between passive social network site usage and online compulsive buying among women. *Addictive Behaviors*, 111, Article 106569. <https://doi.org/10.1016/j.addbeh.2020.106569>

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