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Response to: Loscalzo and Giannini (2018). A boon of incoherence: insights on the relationship between study/work addiction and obsessive-compulsive personality disorder

Odpowiedź na komentarz redakcyjny: Loscalzo i Giannini (2018). Dobrodziejstwo niespójności: spostrzeżenia dotyczące związku między uzależnieniem od uczenia się/pracy a obsesyjno-kompulsywnym zaburzeniem osobowości

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Labour well the Minute Particulars

William Blake

It is a mistake to argue rather than report […]. It is futile to try to prove what is given.

Kurt Gödel
(as recorded by Hao Wang)

In the recent issue of "Psychiatria i Psychologia Kliniczna" ("Journal of Psychiatry and Clinical Psychology"), Loscalzo and Giannini (2018a) responded to the comments (Atroszko, 2018) regarding the conceptualisation of study (and work) addiction. It is an appreciated and noteworthy effort to clarify our understanding of the problematic overstudying (Atroszko, 2018, 2015; Atroszko et al., 2016a, 2016b) as well as overworking, especially within the ongoing debate on the status of work addiction (Atroszko and Griffiths, 2017; Griffiths et al., 2018) and its relationship with co-occurring or underlying disorders (Atroszko, 2019). Most notably, it should be emphasised that, recently, Loscalzo and Giannini have modified their original model of studyholism (Loscalzo and Giannini, 2018a, p. 429, 2017) and have concluded that their "preliminary assumption that Studyholism includes both addiction and obsessive symptoms has now been discarded in favour of conceptualising it as a prevalently OCD-related disorder." However, I argue that 1) the definition of "studyholism" seems not to be congruent with its measurement, and 2) the exclusion criteria are inconsistent with (i) the underlying DSM-5 (American Psychiatric Association, 2013) rationale for distinguishing the category of obsessive-compulsive disorders and related disorders (OCDRD) ii) anxiety disorders, iii) symptomatology of obsessive-compulsive personality disorder (OCPD), and iv) previous studies on study and work addiction comorbidities. According to Loscalzo and Giannini (2018a, p. 427), "Studyholism" is problematic overstudying which is an obsessive-compulsive type of disorder and is not a behavioural addiction, is not related to OCPD or obsessive-compulsive disorder (OCD). Furthermore, "any other clinical diagnoses that might explain Studyholism symptoms should be excluded" [such as attention deficit hyperactivity disorder (ADHD), social anxiety disorder (SAD) and generalised anxiety disorder (GAD)]. Taking into account these criteria, one should ask: what is left then? Basically, the definition by Loscalzo and Giannini (2018a) prevents any diagnosis. Furthermore, the Authors assume that it can have positive components, such as high engagement, and the term "studyholism" is preferred because it is "more general, better mirrors our [Loscalzo and Gianini] theory" (p. 428), assuming it covers all excessive study behaviours. A representative item measuring "studyholism" from the Studyholism Inventory-10 (SI-10) (Loscalzo et al., 2018) asks about study-related "anxieties" and "nervousness," and not about study-related obsessive-compulsive behaviours, which seems to reflect more study-related anxiety (to some extent, congruent with the conceptualisation of test anxiety and social anxiety). Moreover, the reported statistical analysis showed that SI-10 had an unacceptable fit to the data in the Polish sample (CFI = 0.77, RMSEA = 0.15; see Loscalzo et al., 2018), which would support the notion that this conceptualisation is problematic. However, it should be taken into account that the Authors wrote: "Hence, given these

preliminary results, we believe that it would be valuable to gather new data on both Italian and Polish students, in order to analyze further the test and reach a strong and replicable factorial structure of the SI-10. For this reason, we have collected questionnaires from Italian University students of different areas of study and Italian cities, in order to repeat the analysis on a new and more heterogeneous sample. We have done some preliminary analysis on this new sample and it seems that the values of the fit indexes improve considerably especially deleting two items, one for each factor" (pp. 213–214).

In this paper, I suggest some thought-provoking insights stemming from the analysis of the inconsistencies of the Loscalzo and Giannini's model within the model itself and with the existing data. At this backdrop, I draw attention to some vital issues regarding obsessive-compulsive aspects of study addiction conceptualised as a behavioural addiction that deserves addressing and further investigation. These include three main issues: i) addiction is characterised by compulsive behaviour (Everitt and Robbins, 2005; Koob and Volkow, 2010), ii) there is no established operational definition of compulsion in humans (see Brevers and Noel, 2015), iii) data on OCPD are fairly inconsistent, suggesting that this construct itself needs more clarification (Diedrich and Voderholzer, 2015; Egan et al., 2011; Reddy et al., 2016; de Reus and Emmelkamp, 2012; Starcevic and Brakoulias, 2017, 2014). Since it is not meaningful to analyse psychometrics of a construct without first defining it, my previous commentary was focused on the conceptual issues and currently develops on the theoretical problems. I will also briefly address the issue of what appears to be internally inconsistent results of the pilot study by Loscalzo and Giannini (2018b), and what might constitute a valuable anomaly which provides insights into study addiction measurement.

NATURE OF PSYCHOLOGICAL CONSTRUCTS: OBSESSIVE-COMPULSIVE BEHAVIOUR, RIGID PERFECTIONISM AND ANXIETY

There are significant doubts about conceptualising behavioural addictions in general, and work/study addiction in particular, regarding co-occurring or underlying psychological disorders (Atroszko, 2019; Atroszko and Griffiths, 2017; Griffiths et al., 2018). Some authors argue that other diagnoses need to be excluded in order to diagnose a behavioural addiction (Kardefelt-Winther et al., 2017; Starcevic et al., 2018). However, addiction researchers emphasise that all addictions are closely related to coping/emotion regulation, oftentimes with other psychological problems underlying the addiction (Atroszko, 2018; Brevers and Noel, 2015; Griffiths, 2017; Konkolÿ Thege, 2017; Kun and Demetrovics, 2010; van der Linden, 2015; Sinha, 2008). It is consistent with a more general notion of addiction as one underlying process with different expressions (Baggio et al., 2018; Jacobs, 1986; Marmet et al., 2018; Shaffer et al., 2004; Sussman et al., 2017; Tunney and James, 2017). Substance-related addictions have significant comorbidities with a wide range of DSM diagnostic categories (Kessler et al., 2005). In this context, it is argued that the model of "studyholism" by Loscalzo and Giannini requires imposing impossible assumptions on the nature of human psychological functioning or is related to extremely unlikely isolated cases of problematic behaviour.

Firstly, Loscalzo and Giannini assume that "studyholism" is an OCD-related disorder but OCD and OCPD need to be absent. This is inconsistent with the classification of the category of OCDRD based on research showing that OCD, hoarding disorder, trichotillomania, excoriation disorder, and body dysmorphic disorder share epidemiological, aetiological, psychopathological, functional, evolutionary, and treatment-related features (and more so than with anxiety disorders) (American Psychiatric Association, 2013; Phillips et al., 2010). In fact, high co-occurrence (comorbidity) among the disorders was part of the primary rationale for separating them as one category of OCDRD, different from anxiety disorders (with which they still have substantial comorbidities).

By definition "studyholism" is excessive devotion to work-type behaviour and productivity to the exclusion of leisure activities and friendships (not accounted for by obvious economic necessity), which is a symptom of OCPD (American Psychiatric Association, 2013). However, Loscalzo and Giannini (2018a, p. 427) assume that "studyholism" cannot be a form of OCPD when they write: "In line with the DSM-5 (American Psychiatric Association, 2013) we specified that in order to make a diagnosis of Studyholism, any other clinical diagnoses that might explain Studyholism symptoms should be excluded, including OCPD […], being sure that »perfectionism and high involvement in study are not explainable by obsessive-compulsive personality disorder.« Along the same lines, Attention Deficit Hyperactive Disorder (ADHD), as well as Specific Learning Disabilities (SLD), which are more properly classified as neurodevelopment disorders (American Psychiatric Association, 2013), have to be excluded in order to make a diagnosis of Studyholism as well."

The most common feature of OCPD is rigid perfectionism and need for control which underlays the symptoms (Bach and First, 2018; Diedrich and Voderholzer, 2015; Egan et al. 2011; Reddy et al., 2016; de Reus and Emmelkamp, 2012). Rigid perfectionism is frequently related to study addiction (Atroszko, 2018, 2015). Loscalzo and Giannini's conceptualisation means that "studyholism" would have to be an isolated form of rigid perfectionism-rooted disorder but without other rigid perfectionism-caused symptoms in OCPD, such as: 1) being preoccupied with details, rules, lists, order, organisation, or schedules to the extent that the major point of the activity is lost, 2) showing perfectionism that interferes with task completion (e.g. inability to complete a project because one's own overly strict standards are not met), 3) being overconscientious,

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scrupulous, and inflexible about matters of morality, ethics, or values (not accounted for by cultural or religious identification), 4) being reluctant to delegate tasks or to work with others unless they submit to exactly one's way of doing things, and 5) showing rigidity and stubbornness (American Psychiatric Association, 2013). It is very likely that there are types of study/work addicts without underlying rigid perfectionism, e.g. more ADHD-related with compulsive studying/working behaviour being a result of compensating for inability to focus or hyperactivity, which finds support in clinical observations and theoretical models (attention deficit type of a workaholic; Robinson, 2000, 2014) as well as studies on comorbidities of work addiction (Andreassen et al., 2016; Atroszko et al., 2017). However, Loscalzo and Giannini (2018a, p. 427) emphasise that such cases should be excluded from diagnosis. But then again, if "studyholism" is defined as rigid perfectionism-related/OCD-related disorder, then it seems extremely unlikely to have an isolated overstudying compulsive behaviour without some combination of the above listed diagnostic symptoms of OCPD. Furthermore, "studyholism" is defined as an obsessive-compulsive disorder but a representative item measuring "studyholism" from the Studyholism Inventory-10 (SI-10) (Loscalzo et al., 2018) asks about study-related "anxieties" and "nervousness," and not about study-related obsessive-compulsive behaviours. This suggests that it is in fact measured as if it was more of an anxiety disorder (American Psychiatric Association, 2013). The item reflects study-related anxiety, to some extent congruent with the conceptualisation of test anxiety (see Spielberger et al., 2015), linked to the official diagnosis of social anxiety (American Psychiatric Association, 2013). This is again inconsistent with the current differentiation between categories of OCDRD and anxiety disorders (American Psychiatric Association, 2013), and comorbidities within and between these categories. Moreover, since all other disorders need to be excluded, "studyholism" cannot be related to generalised anxiety disorder or social anxiety disorder. Therefore, it would have to be an isolated form of an anxiety disorder. Additionally, it would have to be a peculiar form of an anxiety disorder which causes a person to get in excessive contact with the feared situation or object instead of avoiding it. Behaviourally, anxiety is avoidance of objects/situations, which is opposite to excessive involvement with them (Jimenez et al., 2018). Study addiction has been shown to be related to social anxiety (Atroszko, 2015; Lawendowski et al., 2019). Also other behavioural addictions, especially related to online activity (Caplan, 2007; Kim et al., 2009; Wang and Wang, 2013), such as Internet gaming (Lemmens et al., 2015), social networking (Atroszko et al., 2018), or pornography consumption (Butler et al., 2018), are associated with social anxiety, and social anxiety shows a clear link with substance abuse (Buckner et al., 2008). Comorbidities between most substance use disorders and independent mood and anxiety disorders are "overwhelmingly positive and significant" (Grant et al., 2004, p. 807). Addiction is related to anxiety and comorbid with anxiety disorders, but is not an anxiety disorder in itself.

In summary, in order to diagnose "studyholism," it would be necessary to redefine the basic understanding of rigid perfectionism and anxiety in such a manner that rigid perfectionism would be allowed not to be related to general excessive cognitive rigidity affecting multiple behaviours, or anxiety would be allowed to be related with approach instead of avoidance tendencies/reactions.

ADDICTION CHARACTERISED AS A COMPULSIVE BEHAVIOUR

Addiction is characterised as a compulsive behaviour (Everitt and Robbins, 2005; Koob and Volkow, 2010), and addictions co-occur with OCD and OCPD (Diedrich and Voderholzer, 2015). However, there is no established operational definition of compulsion in humans (see Brevers and Noel, 2015; Everitt and Robbins, 2005), and since data on OCPD are relatively inconsistent, this construct itself needs more clarification.

There are cases of problematic excessive study/work with evident addiction symptoms, such as loss of control (see Atroszko, 2019; Robinson, 2014). Workaholics Anonymous operating in numerous countries around the world for decades respond to the needs of individuals who have apparently lost control over their engagement in work activities and seek help and treatment (Robinson, 2014). While physical withdrawal symptoms are understudied in study/work addiction research, there is reasonably strong indication of the possibility of their existence. For example, there is a line of research on the so-called "leisure sickness" related to the observations that some people feel particularly ill and develop symptoms especially during weekends and holidays (Blank et al., 2015; Van Heck and Vingerhoets, 2007; Vingerhoets et al., 2002). In samples of working individuals, about 15% of respondents in Poland (Atroszko et al., 2017) and 12% in Norway (nationally representative sample; Andreassen et al., 2014) indicated that they often or always become stressed if they are prohibited from working.

It was suggested that OCDP/OCD and other disorders could be comorbid with study/work addiction (Atroszko, 2018, 2019), and some cases of excessive study (and work) behaviours are rooted in cognitive rigidity, perfectionism and need for control related to obsessive-compulsive disorders. The question is whether there are cases of problematic excessive study/work rooted in OCPD without addiction symptoms. In order to answer this question perhaps we need a good operational definition of compulsion and a theoretical framework that would allow distinguishing between addiction-related compulsion, OCD and disordered personality (see Starcevic and Brakoulias, 2017).

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While Loscalzo and Giannini decided that "studyholism" is a purely obsessive-compulsive disorder, they provided no explanation of what (in such case) is measured by Bergen Study Addiction Scale (BStAS) (Atroszko et al., 2015) or Multidimensional Inventory Profile of a Student (Atroszko, 2015). These scales have been shown to validly and reliably measure a construct of study addiction, i.e. problematic excessive studying defined as a behavioural addiction. It was suggested that it is probably impossible to psychometrically decide on whether particular item measures compulsion or addiction (Atroszko, 2018), especially when addiction is defined as a compulsive behaviour (Everitt and Robbins, 2005; Koob and Volkow, 2010). However, Loscalzo and Giannini (2018, p. 429) argued that "there are no compulsion items [in BStAS], which could be used in both the OCD and addiction frameworks." Obviously, it is not the case. To provide just one example, the following item from BStAS is almost identical with the diagnostic symptom of OCPD (American Psychiatric Association, 2013): "How often during the last year have you deprioritized hobbies, leisure activities, and exercise because of your studying?". On the other hand, a representative item from SI-10 has a form of: "Often, I feel anxious or nervous because of study-related issues" (Loscalzo et al., 2018). One could ask: what is the rationale behind concluding that this item does not measure social anxiety disorder with diagnostic symptoms such as: "A persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (American Psychiatric Association, 2013), rather than an OCD-related disorder?

Apart from the lack of explanation of what is measured with BStAS if the "more general" model of problematic excessive studying assumes that all the cases of such behaviour are OCD-related, Loscalzo and Giannini (2018a, p. 428) provide no suggestions on how to integrate the studies showing relationships between work and study addiction with OCD, OCPD, ADHD, GAD, SAD, and depression, within the "studyholism" definition.

What is more, there are various sources of data showing that not all problematic excessive study/work behaviours are related to rigid perfectionism. Correlations with OCPD measures (Golińska, 2008; McMillan et al., 2001) and rigid perfectionism are moderate at best (Atroszko, 2010, 2015; Clark et al., 2010; Girardi et al., 2015; Stoeber and Damian, 2016; Stoeber et al., 2013; Taris et al., 2010), and more detailed analyses show that highest scoring individuals (in upper percentiles of scores) on work/study addiction scales can have very low scores on dysfunctional perfectionism scales (in the lowest percentiles). Moreover, ADHD was more strongly related to work addiction than OCD (Andreassen et al., 2016). Narcissistic personality was equally strongly related to work addiction as OCPD tendencies in a regression model (Golińska, 2008). Social anxiety was equally strongly related to study addiction as dysfunctional perfectionism and psychastenia (Atroszko, 2015).

NEED FOR RE-EVALUATION OF OCPD?

Diedrich and Voderholzer (2015) provided a comprehensive overview of OCPD. According to their findings, the current diagnostic criteria of OCPD include different sets for clinical practice and research, which has increased the heterogeneity of OCPD and precludes the integration of research findings (see Starcevic and Brakoulias, 2014). Data on the course of this disorder are inconsistent, with some studies showing that the diagnosis is highly temporally unstable and some showing that it is stable and OCPD even worsens with age. OCPD is linked to addiction, with studies on comorbidities suggesting relatively frequent co-occurrence of substance use disorders (up to about 30%). The knowledge about aetiological factors in OCPD is limited, and the studies and theories are often contradictory. Therefore, there are four factors that need to be taken into account: 1) literature on OCPD is fairly limited, mixed and inconclusive, 2) excessive devotion to work behaviour and productivity to the exclusion of leisure activities and friendships is currently one of the diagnostic symptoms of OCPD (American Psychiatric Association, 2013), 3) perfectionism is a risk factor for multiple psychological disorders (e.g. eating disorders, anxiety, depression, OCPD), suggesting it being a transdiagnostic process (see Egan et al., 2011), and 4) there is an increasing recognition of the addictive character of problematic excessive overworking (Atroszko, 2019; Griffiths et al., 2018). These facts suggest a strong need to re-evaluate the diagnostic category of OCPD.

INTERNALLY INCONSISTENT RESULTS OF ITALIAN BStAS STUDY

The Facebook addiction study (Atroszko et al., 2018) was referenced previously (Atroszko, 2018) because it contains a brief discussion of some frequently appearing problems with a potential engagement factor in component-based scales across a variety of behavioural addictions, especially work addiction. As far as the results of a pilot study on Italian BStAS (Loscalzo and Giannini, 2018b) are concerned, it should be noted that the results seem internally inconsistent. There are low factor loadings on two items suggesting that they do not measure addiction, and based on their wording and the results of other studies, we could hypothesise that they measure engagement. At the same time, the general score of Italian BStAS was negatively related (a statistically nonsignificant correlation, probably due to a small sample size) to most of the dimensions of study engagement. Previous studies using the analogous work engagement scale (Utrecht Work Engagement Scale) showed its positive relationship or the lack of association with work addiction (van Beek et al., 2011; Shimazu and Schaufeli, 2009), but not a negative relationship. Moreover, the subsample which was correlated with study engagement (n = 80) was not the same as the subsamples used for factor analyses (both n = 147), and this sample was much

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smaller, differed in the variance of age from other two subsamples ($p < 0.001$ for both comparisons calculated based on values reported in the paper), and had the highest mean age value. Therefore we do not know the factorial structure of BStAS in the subsample used for divergent validity testing, but we know that this subsample was more diversified demographically and that it was arbitrarily excluded from factor analyses. These results seem consistent with a situation in which the sample for divergent validity testing consisted mostly of individuals with high scores on BStAS, and the sample for factorial validity testing consisted of individuals with lower scores on BStAS. A limited variance of results in BStAS would affect the covariance matrix and consequently the results of factor analyses. High levels of study addiction in a divergent validity sample would explain the negative relationship with vigour and dedication components of engagement, consistent with the notion that some study addicts could already suffer symptoms of burnout (see Stoeber et al., 2011). I have tested these hypotheses in simulation studies on the data from Polish and Norwegian samples, and the results were entirely congruent with the presented explanation. In fact, in such case, these results could provide additional support for the validity of BStAS, showing that many high scoring individuals are not engaged in study anymore, but addicted. Such homogeneity of BStAS scores within subsamples and heterogeneity between them would be a not impossible but an unfortunate and confusing situation, theoretically accounted for by the probability related to random variability and sampling. It would shed more light on the problem if Loscalzo and Giannini showed means and standard deviations for BStAS in all subsamples (which is a standard reporting procedure), and a test of the factorial structure of BStAS in a divergent validity sample ($n = 80$), but more so in all subsamples combined ($n = 374$). These results constitute a valuable anomaly deserving an in-depth closer look that could give interesting insights. They obviously also require further studies, especially replication studies.

CONCLUSION

The ongoing debate on conceptualising behavioural additions seems to show clearly that there is a demand for a collaborative effort in order to clarify problematic issues on the topic. The possibility to address controversial arguments of other researchers can allow for elaboration of ideas and elucidation of critical ambiguities. The current exchange of arguments with Loscalzo and Giannini seems to palpably indicate the need for developing further our understanding of the relationship between obsessive-compulsive behaviours and addiction. In light of the developments in the understanding of work addiction conceptualised as a behavioural addiction as well as developing knowledge of addiction itself, a re-evaluation of OCPD may be required. The presented analysis shows that while obsessive-compulsiveness, rigid perfectionism and need for control are often related to problematic excessive studying behaviours, these behaviours cannot be conceptualised as a pure obsessive-compulsive disorder the way Loscalzo and Giannini postulate. Symptoms of disorders do not typically appear in isolation, but substantial comorbidities across a variety of psychiatric disorders are obvious and pose a challenge to psychiatric nosology (Krueger and Markon, 2006). Addiction seems to be a special case of a disorder because it is often defined as a result of ineffective coping with other underlying psychological problems. The official classifications of diseases and disorders are undergoing constant changes. Some argue that a more profound shift in the paradigm is required (Borsboom et al., 2018; Bringmann and Eronen, 2018; Campos et al., 2018; Zachar and Kendler, 2012).

As far as I am aware, the completely unaddressed issue thus far is the question of whether there are cases of OCPD related to excessive overworking/overstudying but without some addiction symptoms. More data is clearly needed in order to decide whether we need two (or more) constructs to account for problematic excessive overstudying/overworking. It seems plausible that the cases of OCPD related to this problematic behaviour could be reclassified as a work addiction, similarly to the way pathological gambling has been reclassified in DSM-5 (American Psychiatric Association, 2013). Furthermore, this behaviour could have mild, moderate and severe forms, similarly to the differentiation in substance abuse disorders (see Malinowska, 2018). In such case, we would follow assumptions behind the Occam's razor rule and maintain one construct of overstudying/overworking reflecting the underlying addictive process with varied clinical manifestations and severity levels. These seem to be the arguments that can be formulated based on the known facts about the nature of the existing psychopathology classification systems. In his remarks on certainty, Ludwig Wittgenstein (1969, p. 147) wrote: "All testing, all confirmation and disconfirmation of a hypothesis takes place already within a system. And this system is not a more or less arbitrary and doubtful point of departure for all our arguments; no, it belongs to the essence of what we call an argument. The system is not so much the point of departure, as the element in which our arguments have their life."

Conflict of interest

The author does not report any financial or personal links to other persons or organizations that might negatively affect the content of this publication and/or claim rights thereto.

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