

Self-Control and Mental Health among Incarcerated Women: Evidence from Malaysia's Largest Female Correctional Facility.

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Abstract

Incarcerated women constitute a population at elevated risk of mental ill-health, yet the dispositional traits characterizing their psychological functioning remain under-investigated in Southeast Asian correctional institutions. Despite, the fact that self-control among prisoners is commonly thought of as a personal protective resource, a newly developed body of research evidence that under highly regulated and depriving environments self-control overreactive manifestations of self-control may come into maladaptive expression. The current study investigated the association between self-control and mental health among prison women and analyzed if trait self-control is a predictor of psychological functioning in prisoners in these women. Using a quantitative, cross-sectional survey design based upon the strength model of self-control combined with overcontrol view, data was gathered from 501 incarcerated women from Kajang Women's Prison, Selangor the largest female penal facility in Malaysia with systematic probability sampling. Self-control was assessed by the Brief Self-Control Scale and mental health by the Depression, Anxiety and Stress Scale-21. Partial Least Squares Structural Equation Modelling (PLS-SEM) and bootstrapping (with 5,000 resamples) were used to analyse data. The measurement model showed acceptable reliability and validity (Cronbach's $\alpha = .704-.925$; composite reliability = $.710-.927$; AVE = $.532-.869$), and discriminant validity of the model was confirmed by the Fornell-Larcker criterion and heterotrait-monotrait ratio. Self-control resulted in a clear negative association with mental health using this structural model ($\beta = -.370$, $t = 8.940$, $p < .001$), thus confirming H1 and accounting for 13.7% of the variance in mental health ($R^2 = .137$, $Q^2 = .128$). Contrary to the usual protective perspective, higher levels of self-control were associated with worse mental health, which is in line with the overcontrol viewpoint. The findings have implications on the design of flexibility-oriented psychological interventions in correctional facilities.

Keywords: self-control; mental health; incarcerated women; overcontrol; PLS-SEM; Malaysia

Introduction

Carceral population mental health is one of the most serious but underfinanced public health issues of today. From an epidemiological standpoint, it has been well documented that the psychological morbidity among prisoners is orders of magnitude greater than those of the general public. Fazel, Hayes, Bartellas, Clerici, and Trestman (2016) reported high rates of depression, anxiety, post-traumatic stress, and self-harm among participants in prison in a systematic review and suggest that the higher burden is due to a combination of the individuals' high vulnerability, in-confinement deprivations, and limited mental health care. The World Health Organization (2022) has also underscored how incarcerated women represent a very high-risk subgroup, because they possess disproportionately high rates of trauma and interpersonal violence, economic hardship and disrupted caregiving roles. No psychological strain on female prisoners is equal nor gender neutral. There is a considerable body of evidence that evidence of women in prison to be psychologically distinctive in their mental health status, however also more chronic and severe than men and that these profiles reflect the gendered pathways women typically follow when they enter the criminal justice system. These pathways are often evidenced by histories of childhood adversity and physical and sexual victimisation, chronic partner violence, substance misuse and marginalisation from the wider economy that, taken together, create an "accumulation of risk" where women are more vulnerable

to depression, anxiety, post-traumatic stress and self-harm (Fazel et al., 2016; World Health Organization, 2022). Women with imprisonment themselves have additional gender-specific stressors such as separation from dependent children and loss of maternal identity, which persistently position as important stressors among incarcerated women. This confluence between an already developing vulnerability and the impoverishing condition of incarceration presents a clinical and humanitarian challenge to the psychological functioning of incarcerated women. These issues are of clear interest in the context of a Malaysian correctional system. The Malaysian Prisons Department (2025) reported that 5,140 women were currently in prison at 17 different facilities across the country including, the largest concentration at the Kajang Women's Prison in Selangor. Internationally, these conclusions were also supported by domestic anecdotal evidence: an investigation using the Depression, Anxiety and Stress Scale for convicted female inmates in Kajang indicated that there was severe psychological distress (Hamizi, Shuhaimi & Razali, 2018), among them, and mental health problems were noted as a prevalent problem in the adult prison system as a whole by wider studies (Yaacob, Razali & Ahmad, 2022). Even so, however, the individual and dispositional resources that influence psychological functioning for incarcerated women in Malaysia are fairly unexplored.

These issues become more important in light of the changing mission of correctional institutions. In contemporary Malaysia, as in many areas, penal policy has progressively incorporated rehabilitation and effective reintegration, transcending a purely custodial interpretation of incarceration. The psychological well-being of incarcerated persons is not a secondary welfare concern within this rehabilitative paradigm but a determinant of institutional adjustment, engagement with rehabilitative programming and the likelihood of reintegration upon release. Poor mental health has been associated with challenges in adaptability within confinement and increased rates of reoffending after release, while the availability of such psychological supports can provide an adequate basis for desistance and successful resettlement. The identification of factors that promote and hinder psychological functioning has direct relevance for correctional policy implementation and practice and therefore knowing about dispositional and situational factors that influence the mental health profile of imprisoned women is a component of the rehabilitative mandate. Of the individual-difference variables related to psychological adjustment, self-control has maintained an ongoing scholarly interest. Self-control is defined as the ability to override or change one's dominant responses and to regulate thoughts, emotions and behaviour in the service of long-term goals (Baumeister, Vohs & Tice, 2007; Tangney, Baumeister & Boone, 2004). Much literature depicts self-control as an adaptive resource across domains: High trait self-control is associated with positive psychological adjustment, lower psychopathology and better academic, occupational and social outcomes (Tangney et al., 2004; de Ridder, Lensvelt-Mulders, Finkenauer, Stok & Baumeister, 2012) and a strong body of longitudinal evidence shows that the quality of childhood self-control predicts adult health, wealth and lower levels of crime (Moffitt et al., 2011). In criminology, specifically, Gottfredson and Hirschi's (1990) general theory of crime identifies low self-control as a principal causal factor for crime and impulsiveness, providing a proposition of clear salience to samples within the justice system. Despite its predominantly positive description, emerging research suggests that self-control is not always positive and that too much rigidity of expression has psychological costs. The overcontrol orientation, best encapsulated in Radically Open Dialectical Behaviour Therapy (Lynch, 2018), argues maladaptive overcontrol explains a variety of internalising problems, including chronic depression, anxiety and treatment-resistant disorders. A related line of evidence in the emotion-regulation literature suggests that the chronic suppression of emotional experience, hallmarks of overcontrolled functioning, is related to worse affective consequences and worse well-being (Gross & John, 2003). The strength model of self-control indicates that as inhibitory effort is sustained over time, it can also drain regulatory resources (Baumeister et al., 2007). Collectively, these perspectives imply that the association between self-control and mental health may be more context-dependent than the dominant protective perspective suggests.

The tension is going to be even more acute for some in the correctional setting. Incarceration creates a regime of pervasive outer control through which autonomy is limited, emotion is kept to a minimum and daily life is regimented. For women in prison facing stigma, guilt and the forfeiture of valuable social roles, the dispositional proclivity towards stringent self-control may appear less in adaptive self-regulation than maladaptive overcontrol constant effortful inhibition and emotional repression that may increase and not reduce psychological distress. But the relationship between self-control and mental health has rarely been studied in correctional populations, and almost never in incarcerated women in a Southeast Asian context. There is still no clear empirical conclusion

as to what direction this relationship will take within such a context. Thus, the paradox at the heart of the present investigation is the very presence of a trait traditionally prized as a marker of psychological health but able to operate differently within the walls of a correctional institution. To be clear, if self-control offers adaptive advantage in the open spaces of community life, this value cannot then be assumed to carry directly over into an environment where behaviour is already rigorously controlled and emotional expression is consistently suppressed. This possibility is of practical interest, perhaps not purely academic, because it directly engages with the assumptions of correctional rehab, which tend to implicitly valorise the development of restraint and behavioural regulation. If higher levels of self-control in this area were found to be linked with worse (vs better) mental health, then it would have some very important psychological implications. It is exactly this question which the present study seeks to answer and in doing so it responds to many calls for studies about the mental health of women in custody in other non-Western and Southeast Asian settings as the literature is extremely thin. Here and against that background, the current study fills a clear gap in the empirical and theoretical literature by aiming to investigate the relationship between self-control and mental health among women undergoing incarceration in the largest female correctional institution in Malaysia. The present study is in particular aimed at assessing if the self-control predicts the mental well-being of incarcerated women and at defining the association. There is more to the study than academic merit. With the shift toward rehabilitation and away from containment in the correctional setting, the mental health of incarcerated men and women has been placed at the heart of rehabilitation. Knowledge of how dispositional characteristics, such as self-control, are associated with mental well-being could contribute to evidence-based mental health interventions and to effective correctional policy development particularly in jurisdictions where research to address the mental health of women in incarceration is not conducted.

2. Literature Review and Hypothesis Development

2.1 Mental Health among Incarcerated Women

In this study, mental health is conceptualised with respect to applying its operationalisation via the Depression, Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995), as a person's psychological state that is characterized with respect to presence or absence of negative emotional symptomatology spanning the domains of depression, anxiety and stress. Women in prison are well known as a vulnerable group whose psychological functioning is based on risk factors pre-release, such as history of personal violence, addictive behaviour, poverty, and disruption of family and caregiving relationships (World Health Organization, 2022). These vulnerabilities are aggravated by the carceral context, characterised by loss of self-determination, separation from children, overcrowded conditions and overwhelming uncertainty (Fazel et al., 2016). In Malaysia, only a limited but consistent evidence base suggests that psychological distress is commonplace among incarcerated women (Hamizi et al., 2018; Yaacob et al., 2022), highlighting both the need to study mental health among such women and how suitable the DASS-21 is as an operational measure. The operationalisation of mental health employed here would be worth a quick comment. Instead of measuring positive well-being or the possibility of flourishing, the Depression, Anxiety and Stress Scale-21 measures the severity of negative emotions along three related dimensions depression, anxiety and stress and thus places mental health in a range of outcomes that can be measured based on the relative absence of psychological distress. This symptom-focused conceptualisation is consistent with a population in which elevated distress is the primary clinical problem, and the three-dimensional structure of the instrument allows for the modeling of mental health as a higher-order construct that describes shared variance across domains of negative affect. In this way, the measurement approach encapsulates the dimension of psychological functioning that is most applicable to vulnerabilities described among incarcerated women.

2.2 Gender, Incarceration and Mental Health

And it is a gendered dimension of incarceration that makes clear the need for dedicated attention to the mental health of imprisoned women. Feminist and pathways scholarship has argued that women's pathways into offending are systematically distinct from men's, generally underpinned more often by experiences of victimisation, coerced involvement in crime, and survival responses to poverty and abuse. Sticking with these roots, incarcerated women have higher levels of trauma-related disorders, depression and anxiety, as well as higher levels of comorbid substance dependence. Most importantly, the prison environment also has been structured for the male majority, ensuring that its systems, spaces and services may be ill-equipped to meet the specific needs of women. Because the loss of the maternal role represented by imprisonment is such an acute and enduring source

of grief for so many women, the trauma associated with confinement itself compounds its pain. These considerations position incarcerated women as a population whose psychological functioning cannot sufficiently be framed in terms of generalised or male-dominated examples, and this informs the emphasis we take on dispositional correlates of mental health in this population.

2.3 Conceptualising Self-Control

Self-control refers to the ability to overcome, interrupt, or adjust one's prepotent responses impulses, urges, habits and automatic reactions while also bringing thought, emotion and behaviour into alignment with valued standards and long-term goals (Baumeister et al., 2007; Tangney et al., 2004). The strength model of self-control regards this capacity as a finite resource temporarily exhausted by exertion, so that successive regulation actions use a common and exhaustible reservoir (Baumeister et al., 2007). Trait self-control was operationalised as a stable individual difference as suggested by instruments like the Brief Self-Control Scale (Tangney et al., 2004) which captures the general disposition that tends to regulate impulses and sustain goal-directed behaviour. In criminology, the general theory of crime (Gottfredson & Hirschi, 1990) assigns a major explanatory role to self-control, suggesting low self-control people are inclined towards impulsive, risk-taking and criminal behaviour. This theoretical genealogy is directly applicable to incarcerated individuals, in whom self-control is of both explanatory and clinical concern.

2.4 Theoretical Foundations of Self-Control

There are a number of complementary theoretical underpinnings to the academic understanding of self-control. The strength or resource model (Baumeister et al., 2007) describes self-control as akin to a muscle: a finite potential that is tapped from whenever a person overrides an impulse, resists a temptation or endures hard work and that can be temporarily depleted upon use. According to this logic, practicing self-regulation in one domain may temporarily rob one of the areas of capacity for regulation in another (Baumeister & Heatherton, 1996). Dual-process accounts, in contrast, place self-control at the intersection of two interacting systems an impulsive system that reacts readily to immediate incentives and a reflective system where deliberation and the pursuit of longer-term goals are encouraged and locate failures in self-control in the ascendancy of the former over the latter. Trait accounts, as advocated by the work of Tangney et al. (2004), treat self-control as a relatively stable dispositional trait that varies from person to person, and predicts a wide range of life outcomes. These perspectives are not mutually exclusive; rather, they highlight different levels of a construct that ranges from fleeting acts of regulation to sustained individual uniqueness. And crucially, each foundation has an implicit belief that the exercise of control is primarily an asset an assumption that the overcontrol perspective does a direct job of interrogating.

2.5 Empirical Evidence on Self-Control and Psychological Outcomes

A large body of empirical research has found links between trait self-control and positive psychological and life experiences. As a result, Tangney et al. (2004) found that those who scored higher on self-control had fewer psychopathology symptoms, better emotional adjustment, more secure interpersonal relationships, and better academic performance. Longitudinal data corroborates these findings: as early as childhood, in a birth-cohort study taken to adulthood, Moffitt et al. (2011) showed that childhood self-control prefigured a continuum of adult outcomes that included physical health, financial security and diminished criminal involvement, with effects that were robust to controls for intelligence and social class. Meta-analytic synthesis by de Ridder et al. (2012) confirmed that trait self-control is consistently related to a diverse range of behaviours, and particularly that its relationship is strongest with starting a set of desired, approach-oriented behaviours rather than with the suppression of negative behaviours a nuance that does not lend itself to simple equations of self-control with restraint. Similarly, complementary research has proposed that self-discipline has the potential to outperform measured intelligence in predicting academic achievement (Duckworth & Seligman, 2005). Together, this literature has provided robust *prima facie* evidence supporting the adaptive nature of self-control. The samples on which it is based, however, overwhelmingly have been students themselves, together with community adults and other noninstitutionalized groups and whether these generalisations in turn apply to the special circumstances of confinement is uncertain.

2.6 The Dark Side of Self-Control: Overcontrol and Emotional Suppression

The relationship of self-control with psychological functioning has been characterised by two contrasting approaches. In the main narrative, self-control has been characterized as broadly protective whereas meta-analytic evidence found that traits of high level of self-control predicted desirable outcomes in achievement, interpersonal

and well-being contexts and adaptive rather than just inhibitory-behavioural correlates with the strongest impact (de Ridder et al., 2012). Individuals who score high on self-control have been shown to report the least psychopathology and better adjustment (Tangney et al., 2004), and higher self-discipline has been shown to predict achievement more accurately than merely cognitive ability (Duckworth & Seligman, 2005). In this context, self-control has become a regulatory advantage for people to cope with stressors, maintain goal pursuit and maintain emotional regulation. A second viewpoint puts great emphasis on the consequences of strict or excessive self-control. The overcontrol framework (Lynch, 2018) describes maladaptive overcontrol characterized by inhibited emotion displays, perfectionistic striving, cognitive rigidity and social inhibition as a transdiagnostic vulnerability, associated with chronic depression, anxiety, and other internalising disorders. Convincingly, habitual suppression of emotion, manifested in overcontrolled functioning, correlates with more negative affect, more poor interpersonal functioning, and diminished well-being in contrast to more flexible regulatory strategies (Gross & John, 2003). The strength model also suggests that chronic mobilisation of inhibitory effort might deplete psychological resources (Baumeister et al., 2007). These considerations indicate that when self-control reaches its tipping point when people experience overcontrol its association with mental health might be the opposite of protective. At the heart of the overcontrol account is an automatic suppression. Overcontrolled individuals are those who find it more natural to suppress emotions in a habit, to cover what they actually feel rather than to feel, and to prioritise keeping themselves under control.

Research on emotion-regulation strategies suggests that suppression of this expressive expression, versus more flexible strategies such as cognitive reappraisal, is shown to correspond to increased physiological arousal, high levels of negative affect experience, lower levels of positive affect and less satisfying personal relationships (Gross & John, 2003). It is considered that, over time, chronic emotional suppression incurs an accumulated psychological impact that leads to the persistence of depressive and anxious conditions. Related work on perfectionism a construct particularly inextricably tied to overcontrol has similarly found links between inflexible, self-imposed standards and intolerance of imperfection and internalising pain. Looked at so carefully, the qualities that make an individual reliable, diligent and self-managed can become a vulnerability rather than a strength when excess or excessive display occurs. The clinical scope of the overcontrol construct is substantial. Maladaptive overcontrol is thought to be involved over a range of comorbidities such as chronic and treatment resistant depression, anorexia nervosa and obsessive-compulsive personality attributes within the Radically Open Dialectical Behaviour Therapy paradigm as opposed to being connected by their symptomatology but rather by an underlying style of pervasive inhibitory control, risk aversion and constrained emotional expression (Lynch, 2018). What makes this story unique is that it posits that the real problem in these presentations is not a lack of control (the characteristic problem with impulsive or outward-facing disorders), but instead an excess of control. This reframing applies directly to this investigation, for it suggests that in environments characterized by abundance of control by disposition or environment imposition, the psychological risk involved with excessively intense control might come to the forefront.

2.7 Self-Control in the Correctional Context

An especially distinct situational context, the correctional setting offers a unique context where this maladaptive risk can be heightened, through the amplification of the maladaptive potential of self-control. Imprisonment demands a deep control from around, through a level of external control so that autonomy is curtailed, and behaviour highly constrained, and to the extent that opportunities for emotional expression and interpersonal spontaneity are restricted, the self cannot be more maladaptive. For women in prison who are dealing with stigma and guilt and loss of maternal and social roles, an inherent disposition for stringent self-control may manifest as chronic suppression of emotions and efforts to inhibit such emotions rather than adaptive regulation. Given that in a setting where there has already been extensive behavioural constraint, it is therefore unclear whether high trait self-control leads to a stronger psychological burden of confinement and hence to more internalised distress. This perspective is consistent with overcontrol theory and also indicates that the association between self-control and mental health in this sample could potentially contrast with the protective pattern observed in the wider section of the community samples. Scholarship on adjustment to imprisonment has traditionally been based around two complementary explanatory models. While the deprivation model explains psychological troubles of prisoners in terms of pains of imprisonment the loss of liberty, autonomy, security and personal goods catalogued in classic

sociological accounts of prison life (Sykes, 1958) the importation model looks at the characteristics which individuals bring their pre-existing dispositions, histories and vulnerabilities to the organisation. Applied to the present issue the former two models suggest two converging paths by which self-control may interfere with mental health in confined institutions. High trait self-control is an imported disposition, influencing how an individual typically regulates emotion and behaviour; deprivation is an unmitigated state of mind unable to resist the relentless pressure of the carceral environment toward behavioural conformity and emotional restraint. Where an imported impulse towards stringent self-control intersects with an environment that would otherwise demand considerable constriction, such an outcome may develop into a condition characterized by persistent overcontrol, one that progressively limits the ability to respond with spontaneous emotional expression and adaptive coping. For incarcerated women, the pathways leading to imprisonment are often characterised by trauma and where adjustment is complicated by being cut off from children and displaced from valued roles, these overlapping dynamics are especially consequential for psychological well-being.

2.8 Hypothesis Development

Collectively, the above review demonstrates a glaring tension in the literature. One, a large, and influential body of evidence portrays self-control as a broadly protective resource related to psychological health and adaptive functioning. Conversely, the overcontrol perspective and literature related to emotional suppression suggest that, in its rigid or excessive form, self-control may be a risk of internalising distress. This tension has mostly been explored in community and clinical samples and is largely unexamined in correctional populations especially in incarcerated women in Southeast Asia even though theory suggests that the carceral environment can amplify the maladaptive potential of self-control. The present study bridges the gap and tests the relationship between the degree of self-control and mental health in this population, which is analyzed using the direction of this relationship as an empirical question. Combining the overcontrol perspective (Lynch, 2018), evidence on the costs of emotional suppression (Gross & John, 2003) and the unique demands of a carceral environment, the present study provides a directional prediction about incarcerated women. Although self-control tends to be protective in naturally unrestricted community contexts, the widespread external control and restrictive emotional expression in imprisonment are projected to make increased trait self-control maladaptive, so much so that increased self-control is related to poorer mental health. Accordingly, the following hypothesis is proposed:

H1: Self-control has a significant negative relationship with the mental health of incarcerated women.

2.9 Conceptual Framework

The conceptual framework for the study identifies self-control as the exogenous (independent) variable, and mental health as the endogenous (dependent) variable, with the hypothesized path (H1) representing the direct effect of self-control on mental health. It is based on the strength model of self-control (Baumeister et al., 2007) and the overcontrol perspective (Lynch, 2018), and implies the expected course of relation will be negative. Figure 1 shows the outlined conceptual model.

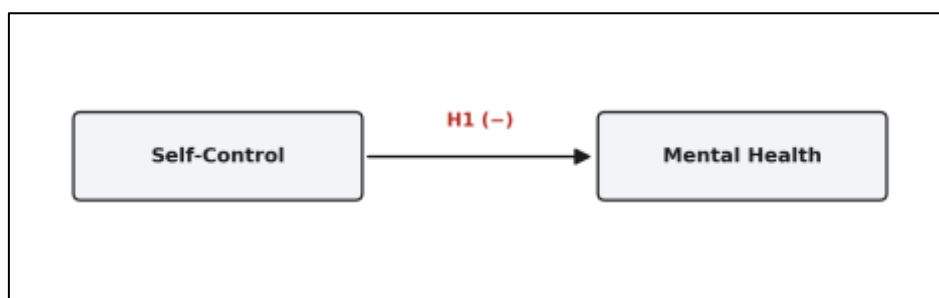


Figure 1. Conceptual model of the study.

3. Methodology

3.1 Research Design

Quantitative research design, a strategy focused on the objective quantification of phenomena through measurement of variables and statistical analysis of numerical data, was followed (Creswell & Creswell, 2018; Sekaran & Bougie, 2016). The study was framed within the positivist paradigm and used a deductive method where a theoretical framework and hypothesis were devised based on established theory before empirical testing

(Saunders, Lewis & Thornhill, 2019). Cross-sectional design was conducted, with data collected from respondents at a single point in time (Setia, 2016). Furthermore, this design is suitable for the correctional setting, where repetitive longitudinal data collection is limited, and allows efficient collection of data, both in terms of time and resources.

3.2 Population and Sampling

The intended population was incarcerated women detained at Kajang Women's Prison (Selangor), the prison that has the highest number of female inmates in all of Malaysia. As reported by the Malaysian Prisons Department (2025), there were 5,140 women in captivity in 17 institutions throughout the country. Kajang Women's Prison was chosen based on high reported prevalence of mental health disorders in prisons at large in general (Fazel et al., 2016) as well as among incarcerated women (World Health Organization, 2022) and corroborating findings from Malaysia from this institution (Hamizi et al., 2018; Yaacob et al., 2022). A probability sampling technique was used to increase the reliability and generalisability of the results (Creswell, 2012). More specifically, a systematic sampling technique was employed, in that respondents were chosen at fixed intervals from an ordered population register (Cochran, 1977; Lohr, 2010). This method was applicable in the correctional setting as an ordered register allowed the selection of subjects to take place in a systematic, rapid and bias-limiting way by stating a random starting point and then taking every k-th element.

3.3 Sample Size

The minimum sample size was calculated from the table prepared by Krejcie and Morgan (1970). Over 700 incarcerated women at Kajang Women's Prison had been sentenced by the time of data collection, therefore met the inclusion criterion. A minimum sample of 248 respondents (90% confidence level) was calculated. To enhance reliability and reduce sampling error in conjunction with pragmatic considerations like non-response measures the target sample was significantly expanded, arriving at 501 subjects in the end. It is recommended that a larger sample be utilized in the present investigation to secure more reliable and stable estimates (Hair, Black, Babin & Anderson, 2010), and the sample employed here comfortably meets the minimum criteria for PLS-SEM with at least 100 exploratory cases and at least 200 confirmatory cases (Tabachnick & Fidell, 2013).

3.4 Research Instruments

Demographic questionnaires, and two established psychometric instruments were used for measuring the study variables, each based on a Likert-type response format to ensure comparability of measurement. Where the instrument had originally been developed in English, translation and cultural-adaptation protocols for both conceptual equivalence and understanding by the respondent were implemented (Brislin, 1970). Instrumentation used is detailed in Table 1.

Table 1. Summary of Research Instruments

Construct	Instrument	No. of Items	Dimensions	Source
Self-control	Brief Self-Control Scale (BSCS)	4	1	Tangney, Baumeister & Boone (2004)
Mental health	Depression, Anxiety and Stress Scale-21 (DASS-21)	21	3	Lovibond & Lovibond (1995)

Self-control was measured with the Brief Self-Control Scale (Tangney et al., 2004), that assesses the general dispositional ability to regulate impulses and sustain goal-directed behaviour with higher scores indicating greater self-control. Mental health was measured by the Depression, Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995), a 21-item scale that includes three subscales depression, anxiety and stress scored on the basis of participants' experience over the preceding week. The three subscales comprised dimensions of the mental health construct in the measurement model.

3.5 Expert Validation and Pilot Study

Prior to data collection, the content validity of the instruments was established through evaluation by a five-member panel of local experts specializing in psychology, counselling and mental health (Lynn, 1986; Polit & Beck, 2006). The relevance of each item was scored and items were adjusted according to expert suggestions to

improve clarity and suitability for the correctional setting. A pilot study was then completed to assess instrument reliability by distributing questionnaires to incarcerated women across three institutions. Internal consistency, indexed by Cronbach's alpha, was adequate for all constructs, above the .70 threshold (Hair, Matthews, Matthews & Sarstedt, 2017; Nunnally & Bernstein, 1994) proving the instruments were adequate for deployment within the main project.

3.6 Data Collection Procedure and Ethical Considerations

Data gathering at Kajang Women's Prison was conducted under official sanction from the Malaysian Prisons Department and in accordance with the relevant institutional regulations and ethical standards (Creswell, 2012). The sampling frame was drawn from the official register of sentenced incarcerated women. The sampling interval was determined by dividing the eligible population by the required sample size; a random starting point was then selected, and every k-th individual was drawn thereafter. Before completing the questionnaire, respondents were made aware of the purpose of the study and their right to confidentiality. Participation was voluntary, and all respondents were advised that they were free to withdraw at any point without penalty, in accordance with ethical principles of informed consent, confidentiality, and the protection of participants' rights (Neuman, 2014; Sekaran & Bougie, 2016). Completed questionnaires were verified, coded and stored confidentially for academic purposes, and respondents' identities were fully anonymised.

3.7 Data Analysis

Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse the measurement model and to investigate the association between self-control and mental health. With the non-normal distributions of data (Afthanorhan, 2013; Henseler, Ringle & Sinkovics, 2009), PLS-SEM is suitable to sample in modest amount and can estimate measurement and structural models at the same time (Hair et al., 2017; Ramayah, Cheah, Chuah, Ting & Memon, 2018). In this analysis, Harman's single-factor test was used to evaluate for the potential of common method bias. The analysis was conducted in two steps in the subsequent part of the study. The measurement model was initially assessed based on reliability of indicators (outer loadings), internal consistency reliability (Cronbach's alpha and composite reliability $\geq .70$), convergent validity (average variance extracted, AVE $\geq .50$; Fornell and Larcker, 1981) and discriminant validity (the Fornell-Larcker criterion and the heterotrait-monotrait ratio, HTMT $< .90$; Ramayah et al., 2018). Next, the structural model was tested by bootstrapping it with 5,000 samples to provide path coefficients, t-values and p-values together with coefficient of determination (R^2) and predictive relevance (Q^2). PLS-SEM was selected in lieu of covariance based structural equation modelling for some reasons. To begin with, since PLS-SEM does not incorporate multivariate normality, survey data of the nature used in this study are often non-normality. Second, it works well with a fairly complex model and a relatively small sample size without convergence or identification problems that the covariance-based methods have. Third, its variance-based estimation is suitable where analytic focus is on prediction and description of endogenous constructs, rather than strict confirmation of a theoretical covariance structure (Afthanorhan, 2013; Hair et al., 2017; Ramayah et al., 2018). Estimation was performed by SmartPLS, with the two-stage analytic model as recommended for PLS-SEM - the measurement model and the structural model - followed in the whole process.

4. Data Analysis and Results

4.1 Respondent Profile

The final study sample consisted of 501 respondents, all of whom were female. The sample, as summarized in Table 2, was clustered within the middle-adult age brackets, with the largest proportions being between the ages of 30–40 (36.1%) and 41–50 (28.7%). Malay (72.7%) and Muslim (77.6%) populations comprised the predominance of the sample, consistent with the broader demographic composition of the Malaysian female prison population. Regarding the marital status of respondents, widowed were the largest population (42.7%), followed by married (29.7%) and single (27.5%) respondents. The biggest proportion of respondents reported self-employment (44.3%) and private-sector work (26.3%) for economic activities. If it came to crime, the sample was characterized by drug offences making up the overwhelming majority of the cases, with property, violent and other offences comprising the remainder a distribution consistent with national patterns of female incarceration in Malaysia. Cumulatively, these attributes describe an overwhelmingly middle-aged Malay-Muslim sample of

women, with secondary-level educational backgrounds and heterogeneous marital and employment histories, respectively.

Table 2. Demographic Profile of Respondents (N = 501)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	501	100.0
Age (years)	30 and below	112	22.4
	30–40	181	36.1
	41–50	144	28.7
	51–60	53	10.6
	Above 60	11	2.2
Ethnicity	Malay	364	72.7
	Indian	59	11.8
	Chinese	57	11.4
	Other	21	4.2
Religion	Muslim	389	77.6
	Buddhist	47	9.4
	Hindu	41	8.2
	Christian	23	4.6
	Other	1	0.2
Marital status	Widowed	214	42.7
	Married	149	29.7
	Single	138	27.5
Employment	Self-employed	222	44.3
	Private sector	132	26.3
	Unemployed	86	17.2
	Business owner	61	12.2

Note. Percentages are rounded to one decimal place and may not total exactly 100 owing to rounding.

4.2 Data Screening

The data were reviewed with respect to completeness and quality before substantive analysis. Responses were searched for missing values and cases checked for implausible or inconsistent response patterns. The remaining 501 responses were therefore investigated initially for distributional features of the indicators. Based on the properties of survey data, the indicators departed from multivariate normality, confirming the rationale for the variance-based PLS-SEM approach employed in the study (Afthanorhan, 2013; Hair et al., 2017). After data screening, common method bias was examined, and the measurement and structural models were assessed in two stages.

4.3 Common Method Bias

Because the data were obtained from self-report from a single source, a single-factor test for common method bias was conducted using Harman's single-factor method (Eichhorn, 2014; Guide & Ketokivi, 2015). Common method bias is generally not regarded as a serious concern provided that the variance explained by the first unrotated factor falls below the recommended threshold of 40–50%. In the current study, 37.84% of the variance was

explained by the first unrotated factor, which was below both thresholds. The results therefore indicate that common method bias was not a material concern in this study.

4.4 Evaluation of the Measurement Model

The reliability and validity of the measurement model were determined before structural relationships were considered. The reliability of internal consistency was satisfactory for both constructs. Cronbach's alpha values were between .704 to .925, above the threshold of .70 (Hair et al., 2017), and composite reliability values varied from .710 to .927, a similar finding of reasonable internal consistency. Mental health had the highest reliability ($\alpha = .925$, CR = .927), while self-control had satisfactory reliability ($\alpha = .704$, CR = .710). Convergent validity was proven where average variance extracted (AVE) per constructs showed up greater than the recommended value of .50 (Fornell & Larcker, 1981): self-control recorded AVE = .532 and mental health an AVE = .869, indicating that each construct accounted for more than half of the variance in its indicators. Outer loadings ranged from .633 to .797 for self-control and from .924 to .939 for mental health. While one self-control indicator only entered well below its own .70 benchmark, the indicator was good at both construct reliability and AVE, therefore maintaining the indicator (Hair et al., 2017). Overall, the measurement model possessed acceptable reliability and convergent validity to demonstrate adequate measurement of construct and gave a sound footing for the assessment of the structural model. The findings are reflected in Table 3, while the measurement model is illustrated in Figure 2.

Table 3. Measurement Model Results

Construct	Items / Dimensions	Outer Loadings	R^2	Q^2	Cronbach's α	CR	AVE
Self-control	4	0.633–0.797	—	—	0.704	0.710	0.532
Mental health	3	0.924–0.939	0.137	0.128	0.925	0.927	0.869

Note. CR = composite reliability; AVE = average variance extracted. R^2 and Q^2 apply to the endogenous construct.

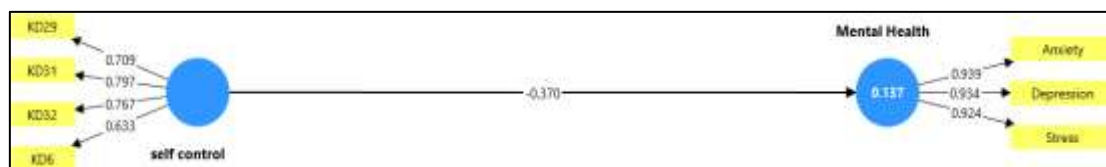


Figure 2. Measurement model.

4.5 Discriminant Validity

Discriminant validity was tested to ensure that each construct was empirically different from the others (Ringle, Sarstedt, & Mooi, 2010). The Fornell–Larcker criterion (Fornell & Larcker, 1981) was first used, in which the square root of the AVE of each construct (on the diagonal) was greater than the corresponding inter-construct correlation, that is, that each of the constructs shared more variance with its own indicators than with the other constructs. Then, the heterotrait–monotrait ratio (HTMT) was assessed as an additional measure of discriminant validity. Ramayah et al. (2018) state that HTMT values below .90 would indicate adequate discriminant validity; as can be seen from Table 5, the observed HTMT value definitely dipped below this threshold. The Fornell–Larcker and HTMT analyses corroborate that discriminant validity was achieved for the constructs within the model.

Table 4. Discriminant Validity — Fornell–Larcker Criterion

	Mental Health	Self-Control
Mental health	0.932	
Self-control	–0.370	0.729

Note. Diagonal values (in bold) are the square roots of the AVE; off-diagonal values are inter-construct correlations.

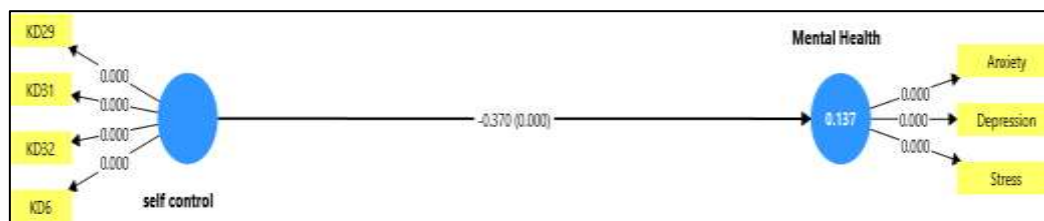
Table 5. Discriminant Validity — Heterotrait–Monotrait Ratio (HTMT)

	Mental Health	Self-Control
Mental health	—	
Self-control	0.453	—

Note. All HTMT values are below the .90 threshold, confirming discriminant validity.

4.6 Evaluation of the Structural Model

The structural model was validated using bootstrapping with 5,000 resamples to establish if the hypothesized relationship between self-control and mental health is significant. Collinearity was checked ahead of hypothesis testing; the variance inflation factor (VIF) for all constructs was below the threshold of 5 and multicollinearity was not a problem (Hair et al., 2017). The model's explanatory value was analyzed via coefficient of determination (R^2). Of the variance in mental health, self-control contributed 13.7% ($R^2 = .137$), which is consistent with Chin (1998) as a weak factor of predictive power. On the other hand, the small amount of variance explained reveals that self-control plays an important role in differences in mental health. Predictive relevance was tested according to the Stone–Geisser criterion (Q^2); the Q^2 value for mental health was .128, greater than zero showing the model had predictive value on the endogenous construct (Hair et al., 2017). Thus, despite its constraining nature, the structural model proved, in terms of the degree to which it can predict mental health, to have predictive value, and therefore explanatory strength among different sub-factors. Figure 3 presents the structural model.

**Figure 3. Structural model.**

Co-analysis of the coefficient of determination with the predictive relevance statistic creates a unified description of the model's performance. While self-control accounted for a small portion of the variation in mental health, the positive predictive relevance statistic means the model still has the capacity to predict the endogenous construct beyond the fitted sample, a property important for explanation and prediction rather than simply reproducing in-sample covariation. This pattern fits with a single-predictor model in a domain — mental health — that is inherently multiply determined and should be interpreted as identifying self-control as one meaningful contributor among many rather than as a comprehensive account of psychological functioning within this population.

4.6.1 Direct Hypothesis

Bootstrapping, in the form of a model run with 5,000 resamples, was utilised to assess the direct connection between self-control and mental health. A particular path was regarded as statistically significant when the t-value was beyond 1.64 and then the relative p-value was $< .05$ (one-tailed test). The study results illustrate negative and significant relationships between self-control and mental health as indicated in Table 6 ($\beta = -.370$, $t = 8.940$, $p < .001$); thus, H1 was confirmed. The negative path coefficient suggests that the higher self-control level was directly correlated with the worse mental health. This reveals that, whilst self-control represents an individual's ability to regulate thoughts, feelings and conduct, exertion thereof in the correctional setting might be associated with greater psychological burden, which is detrimental to mental health.

Table 6. Results of the Direct Hypothesis

Hypothesis	Path	Path Coefficient (β)	t-statistic	p-value	Decision
H1	Self-Control → Mental Health	-0.370	8.940	0.000	Supported

Note. Significance evaluated at $p < .05$ (one-tailed); critical t-value = 1.64. β = standardised path coefficient.

5. Discussion

5.1 Interpretation of the Self-Control–Mental Health Relationship

In conclusion, the current study investigated how self-control related to the mental health of incarcerated women in Malaysia's largest female correctional facility. The results show a clear and statistically robust pattern: self-control was a significant predictor of mental health, and the direction of that relationship was negative, such that higher self-control was associated with poorer mental health. This finding supported H1 and, though it runs counter to the protective account that dominates most self-control literature, is consistent with the overcontrol perspective underpinning the directional prediction for this study. The robustness of the association gives credence to this reading. The path coefficient was large and highly significant, with a bootstrap t-value well over traditional threshold for significance, showing that the negative relationship between self-control and mental health is unlikely to be the result of sampling variability. By standard metrics, a standardised coefficient of this magnitude indicates a moderate level of strength in terms of correlation between the two variables and a negative sign in the negative direction is clear and strong. That such a relationship could and should become apparent in a population selected exactly for its involvement with the criminal justice system and thus, on criminological grounds, expected to be relatively low in self-control indicates the importance of studying self-control, not as a homogenous good, but rather as a disposition whose effects are contingent on the context in which it is expressed. The observed negative association is contrary to the extensive literature on self-control as broadly adaptive in community samples (de Ridder et al., 2012; Tangney et al., 2004). There are some factors that help reconcile this divergence. In the first place, the overcontrol paradigm (Lynch, 2018) posits that self-control is maladaptive when it becomes so stifling that it becomes rigid, chronically emotionally constrained and compulsively restrained, and this sort of overcontrol amounts to a transdiagnostic vulnerability to internalising disorders. Within a correctional environment one characterized by continuous external control and systematic restriction of emotional expression a personality inclination toward restrictive self-control likely manifests itself in maladaptive rather than adaptive regulation. Second, previous work in emotion-regulation also demonstrates that habitual emotion suppression, which is a hallmark of overcontrolled functioning, is associated with enhanced negative affect and decreased well-being (Gross & John, 2003); incarcerated women with increased self-control may also more often exhibit emotional suppression, which in turn exacerbates the psychological stress of confinement. Third, the strength model of self-control (Baumeister et al., 2007) suggests extended mobilisation of inhibitory effort can consume regulatory resources; in an environment that already requires widespread behavioural limitation, high trait self-control may add to and add to an accumulated regulatory load.

A second level of interpretation arises when viewed next to the criminological account of self-control. As a general theory of crime (Gottfredson & Hirschi, 1990), low self-control is one of the key conditions of the disposition to commit crime; therefore, it is reasonable to expect that incarcerated individuals should on average exhibit comparatively low self-control. But within that population, the connection between self-control and mental health is not identical to the connection between self-control and offending. By restricting impulsive and criminal responses, the disposition may be able, when expressed as intense overcontrol within the limits of confinement, to contribute to internalising suffering. The two relationships function at differential levels and for different degrees of effect, and today's results highlight the risk of confusing the behavioural gains of self-control with a presumption of psychological rewards. That such self-restraint might guard against externalising behavior while generating emotional costs on the internal end, is itself a theoretically important possibility that deserves further consideration. When the new evidence is combined with what has been found of adaptive dispositional resources within the same population, these interpretations gain greater strength. Whereas resilience a phenomenon characterized by flexible adaptation and meaning-making is positively correlated with mental health in incarcerated women, self-control, in terms of effortful restraint and inhibition, was negatively associated with mental health in this population. The contrast suggests that if these constructs can be considered to function more in concert within the correctional environment in terms of mental flexibility they may be protective and rigid control may be detrimental, a distinction that strikes a theoretical chord with overcontrol thinking specifically.

The context of the study's cultural aspects provides an additional interpretive angle. The current sample was the result of a high number of Malay-Muslim people in a collectivist cultural background that is mainly Malay-Muslim and may deviate from the personalistic Western context where much self-control literature on self-control

has been produced. In cultures valuing restraint, for example, where calmness and emotion-containment are stressed, this dispositional bias may be underpinned by social norms that may magnify the inclination towards emotional repression. Not that the current data enable a straightforward measurement of such cultural moderation, but the potential highlights the importance of applying the results on self-control in a certain culture and of caution in generalizing to another setting. Cross-cultural research could help us better understand how the relationship seen here is molded by culturally specific conceptions of emotional expression. However, we must remain careful to determine its size. Self-control explained a modest 13.7% of the variance in mental health - suggesting that it was one of several factors contributing to the mental impairment of this group of people. Institutional settings, social support, clinical history and the degree of pre-incarceration trauma are expected to contribute substantially more, and the lack of explanation highlights the complex character of mental health problems among incarcerated women. The relationship is a straightforward one, and its relation is of major theoretical and practical importance

5.2 Theoretical Implications

The study can be seen as theoretically offering insights into the difference in the relationships between self-control and psychological functioning. By showing a strong, negative correlation within a correctional population, the results warn against the over-generalisation of the protective nature of self-control across all settings and populations. They provide empirical evidence of the overcontrol perspective (Lynch, 2018) and claim that psychological effects of self-control depend on the setting in which it is exercised. By doing so, the study illustrates how context-sensitive theorising might be beneficial to the study area by revealing how one dispositional characteristic might work in one situation in an adaptive manner and maladaptively in another. The results also suggest an enhanced emphasis on differentiating between adaptive self-regulation and maladaptive overcontrol, of which attention should be paid more and more in line with the definitions and measures related to this in forthcoming research. Relatedly, the results illustrate a debate in the dimensionality and valence of self-control. Had self-control been a universally adaptive attribute, one would expect a positive correlation between it and well-being in all environments, whereas the negative association that we describe here is consistent with theories that would allow for a curvilinear or context-dependent relationship, where control becomes less effective, and can occur in reverse, when the line for rigidity has been crossed. This possibility does fit in with the historical recognition that psychological strengths may become liabilities when displayed inflexibly, and it bolsters the increasing argument to separate the flexible, goal-seeking exercise of self-regulation from the compulsive, emotion-inhibiting behaviour characterising overcontrol. It will be necessary, therefore, to construct measurements that can distinguish these dimensions and designs that investigate when and over what thresholds self-control is not protective. As a corollary, identifying a correctional population as one such condition, the current study contributes real empirical grounding to this emerging theoretical discussion.

5.3 Practical Implications

From a practical perspective, the findings have significance in terms of designing psychological interventions in correctional facilities. This negative association between self-control and mental health indicates that interventions designed to enhance behavioural control may be poorly matched to the needs of incarcerated women, who are already under serious constraint because of the environment. Rather, the findings indicate a need to have flexibility-oriented methods focusing on openness, emotional vulnerability and adaptive coping rather than added inhibition. Interventions of that overcontrol model, with a focus on loosening of rigid structures of control and increasing social connectedness and emotional receptivity, could especially be appropriate here. More generally, these findings emphasize the need to develop correctional mental health programming that is responsive to the distinct psychological requirements of a correctional environment, rather than importing generic notions about the benefits of self-control in a punitive setting. Operationally, a number of intervention approaches fit this new focus. These methodologies inspired by the overcontrol paradigm (e.g., Radically Open Dialectical Behaviour Therapy, Lynch, 2018) specifically target the relaxation of rigid inhibitory control, the fostering of openness and the enhancement of social connectedness and may be particularly applicable for incarcerated women showing the overcontrolled profile that was suggested for in the current study. Mindfulness-based and acceptance-oriented interventions, fostering a non-judgemental relationship and being flexible with the inner worlds, provide a second avenue of intervention with which the psychological flexibility focus can be paralleled. Structured opportunities for emotional expression, peer support and purposeful activity in the prison setting may similarly resist the suppressive pressures of the carceral system. Especially, the design and evaluation of such programmes need to

be based on strong outcome research, making the reorientation proposed here result from good science (not a hypothesis). The findings also have institutional and policy implications above and beyond the level of individual intervention. Routine screening for psychological distress, particularly attentive to the fact that seemingly stable, well-behaved individuals may be experiencing significant distress on the inside, may serve to spot those incarcerated women whose seemingly well-mannered behaviour conceals an underlying distress. Training for correctional staff in identifying internalising difficulties which, by contrast to disruptive behaviour, is unlikely to catch much attention at the institution would enable earlier detection and referral. Environmental regimes that afford measured autonomy and meaningful occupation and provide opportunities for social and emotional connection may counter the suppressive forces of confinement. Such measures, consistent with the rehabilitative orientation of modern penal policy, would situate the treatment of mental health within a broader practice of humane and effective correctional practice.

5.4 Limitations and Directions for Future Research

The interpretation of these results is therefore qualified by several limitations, and many open lines of inquiry. First, cross-sectional studies measure associations at one moment in time, making it impossible to determine temporal or causal ordering of the association between self-control and mental health; longitudinal studies will allow researchers to determine if trait self-control precedes a shift in psychological functioning, or if the reciprocal relationship exists. Second, the exclusive reliance on self-report makes the data vulnerable to common-method and social-desirability biases, the potential for which is especially salient in a correctional setting where participants may be incentivized to present themselves favourably; future research should consider the inclusion of behavioural or informant-based measures. Third, the operationalisation of the constructs requires a closer look, given that the measurement of self-control with a short, standardised instrument does not differentiate between adaptive self-regulation and maladaptive overcontrol, and the directional scoring of the mental health measure should be carefully specified when interpreting the negative association tools that explicitly separate the two dimensions are needed for future investigations. Fourth, the relatively small amount of variance explained suggests that self-control alone is only one contributor to mental health risks in this population, while the exclusion of significant factors like social support, institutional climate, clinical history and the magnitude of pre-incarceration trauma could have limited the model's explanatory power. Finally, the study is based on a single institution, albeit the largest of its kind in the country, and the findings may not generalize to other correctional facilities and jurisdictions. Future research could productively counteract such limitations with longitudinal or mixed-methods designs, multi-site sampling, expansion of other predictors and theoretically motivated moderators, selection of measures able to differentiate adaptive regulation from overcontrol; experimental assessment of flexibility-oriented interventions could further enlighten the relevance of the current findings by elucidating the practicability of the findings.

6. Conclusion

This study examines the association between self-control and mental health status of incarcerated women in Malaysia's largest female correctional facility. The results indicate that self-control is a significant predictor of mental health, and the association seems negative, in this study's population, for the greater the degree of self-control the poorer the mental health. This trend, contrary to the protective explanation in community-based approaches, is consistent with the overcontrol argument and implies that the psychological value of self-control is context dependent. The findings are supportive of the applicability of dispositional traits to incarcerated women's mental health but caution that in a culture characterized by pervasive external dominance, inflexible self-control can exacerbate, not alleviate, symptoms of psychological distress. When aggregated, these results support the applicability of dispositional components to treatment effects among incarcerated women, while warning that, in an environment characterized as one dominated by external omnipresent control, severe self-control can be additive rather than remedial to psychological suffering. By documenting a significant negative association within an understudied population and situating it within the overcontrol perspective, the study offers an empirically grounded contribution to the literature on the mental health of incarcerated women and provides a foundation for the development of theory-informed, flexibility-oriented correctional interventions. Subject to the limitations discussed above, it encourages a reconsidered presumption that greater self-control is necessarily good

and highlights the need for a more context-sensitive picture of the conditions in which self-control facilitates or detracts from psychological flourishing

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