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Does the good lives model work? A systematic review of the recidivism evidence

Jenna Zeccola, Sally Fiona Kelty and Douglas Boer

Abstract

Purpose – *The purpose of this paper is to evaluate the efficacy of good lives model (GLM) interventions on the recidivism outcomes of convicted offenders.*

Design/methodology/approach – *The review adhered to preferred reporting items for systematic reviews and meta-analysis and Cochrane guidelines. Digital databases were searched and articles reporting outcomes of the GLM amongst convicted offenders and outcomes including recidivism data and pre-post measures of dynamic risk were included in a narrative synthesis.*

Findings – *Of 1,791 articles screened, only six studies met the criteria for review. Key findings were: in half the reviewed studies, GLM did not increase recidivism risk; in half the reviewed studies, only when the correct treatment dosage was applied that some evidence of risk reduction was found; there was limited support for GLM increasing or sustaining motivation for resistance from reoffending. Research for the review was limited and support for the GLM in reducing recidivism rates was not established.*

Practical implications – *In this 2021 review, the authors examined the efficacy of the GLM in reducing recidivism. This addresses a gap in the literature. The authors found that there is insufficient evidence to suggest that the GLM can reduce recidivism. This has implications for practitioners who wish to deliver evidence-based practices in prison/community settings. There is currently not enough peer-reviewed evidence to unequivocally confirm the efficacy of the GLM. The authors recommended additional quality programme outcome research be carried out.*

Originality/value – *To the best of the authors' knowledge, this study is the first to assess quantitative and qualitative studies on the efficacy of the GLM and provides foundations for future research.*

Keywords *Risk, Good lives model, Offender, Evidence-based practice, Rehabilitation*

Paper type *Research article*

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Introduction

The worldwide rate of incarceration shows an increasing trend. Research findings from Penal Reform International revealed a global prison population increase of 24% between 2000 and 2015 (Rope and Sheahan, 2018) – a rate higher than world population growth over the same timeframe (Walmsley, 2016). Consequently, reducing the likelihood of future criminal behaviour has been a longstanding focus for the field of corrections. Over the past 40 years, there have been considerable efforts to identify "what works" to rehabilitate offenders and reduce their risk of reoffending, generally measured in terms of recidivism (Berghuis, 2018). The field of psychology has contributed to these efforts, with several theoretical frameworks devoted to explaining offending behaviour and identifying key principles to reduce recidivism (Craig *et al.*, 2013). A variety of rehabilitation practices underpinned by these models have been developed and research has demonstrated that, compared to no intervention, most are effective at reducing recidivism to a certain extent (Berghuis, 2018; Gannon *et al.*, 2019).

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Currently, the framework with a large body of empirical support is Andrews and Bonta's risk-need-responsivity model (RNR; Newsome and Cullen, 2017). The utility of RNR has been demonstrated in meta-analytic studies with cumulative samples exceeding 50,000 participants, showing a significant effect on the reduction of recidivism amongst diverse offender populations (Andrews and Bonta, 2010; McGuire, 2005). The RNR model facilitates the effective treatment of offenders by addressing the who, what and how of offending through principles encompassing comprehensive risk assessments and interventions tailored to the individual criminogenic needs of the offender (Serin and Lloyd, 2017). However, many researchers have argued that the RNR principles alone are not sufficient to motivate and engage offenders in the rehabilitative process towards effective and sustained change (Willis and Ward, 2013).

A recent yet increasingly popular theory designed to engage and motivate offenders is the good lives model (GLM). Developed by Ward in the early 2000s, the GLM is suggested to be an alternative to the RNR approach (Looman and Abracen, 2013). Authors of the GLM suggest it is a strengths-based rehabilitation theory informed by positive psychology (Ward, 2002); initially developed for use with adult sex offenders. In GLM it is suggested that people are predisposed with a desire to gain what the model describes as *primary goods*, which refers to 11 basic human needs, including life, knowledge, happiness, spirituality and creativity (Ward and Maruna, 2007). The means by which people obtain primary goods is further referred to as *secondary goods* (Ward, 2002). For example, to achieve the primary good of knowledge, one may pursue further study. The GLM posits that offending occurs when the means or secondary goods, become maladaptive or antisocial in nature. The aim of GLM and interventions based on the model is to enhance offender well-being and reduce recidivism by providing offenders with the skills and resources to obtain primary goods in prosocial ways, thereby motivating and enabling them to lead pro-social lives and become integrated into the community (Ward, 2002). With an emphasis on ethical and human rights, the GLM has been suggested as a promising theory for the practice of offender rehabilitation and it has gained support internationally (Birgden and Ward, 2017).

A survey conducted by McGrath *et al.* (2010) found that in the USA and Canada around 30% to 50% of correctional facilities applied the GLM in treatment programmes for sex offenders. In the UK, the GLM has been applied to children as young as eight years old (Murphy, 2017). The model has also been adopted widely across Australasia, where it has informed the treatment culture of many correctional facilities (O'Sullivan, 2014). Application of the GLM has also been extended beyond its intended use with sex offenders, for example, within substance use programmes (Sakdalan, 2017), with mentally disordered offenders (Barnao, 2013), intellectually disabled offenders (Aust, 2010), indigenous offenders (Leaming and Willis, 2016), young offenders (Fortune, 2018) and both male and female generalist offenders (Van Damme *et al.*, 2020). All these noted populations have distinct criminogenic needs (Taxman and Caudy, 2015).

Despite the diverse application of the GLM, the efficacy of the model on its ability to lower recidivism outcomes has not been established and is the subject of ongoing debates (Looman and Abracen, 2013). Due to the incorporation of RNR principles, which have been well-established with recidivism reduction (Andrews and Bonta, 2010), it has been argued that any programme underpinned by the GLM should be at least equally, if not more effective at reducing recidivism than those based on RNR alone (Willis and Ward, 2013). Opponents of GLM have questioned the lack of empirical evidence, suggesting GLM interventions dilute RNR principles, thereby compromising the efficacy of RNR to reduce recidivism (Andrews *et al.*, 2011). It is argued that the result of diluting RNR simply creates "happy but dangerous individuals" (Wormith, 2015).

To date, only one peer-reviewed systematic review examining the efficacy of GLM on reducing recidivism exists. The review by Netto *et al.* (2014) evaluated results from randomised control trials (RCTs) and recidivism data post-treatment from over 1,100

peer-reviewed and unpublished papers. The review found no studies eligible for inclusion and concluded that there was no empirically sound research available to be able to test the efficacy of GLM. Therefore, it was concluded there was no evidence to suggest that GLM could significantly reduce recidivism risk. However, it must be noted that the study was assessing GLM using RCTs and although RCTs are the gold standard of high-quality evidence for systematic reviews, it is very rare in corrections to be able to conduct a robust RCT given ethical, management and financial constraints of carrying out treatment programmes with offenders (Pettus-Davis *et al.*, 2016).

Additionally, restricting outcomes to recidivism data, whilst an ideal measure of the construct of reoffending is also problematic (Ruggero *et al.*, 2015). Acquiring recidivism data is a time-consuming process, which is often outside of the scope of many studies as it needs considerable buy-in between research teams and corrections departments over a long period of time and data access issues. Further, the use of recidivism (i.e. new convictions) as a dichotomous "all or nothing" sole measure of programme success disregards the ability of the GLM to foster positive behavioural change – a major aim of the theory (Ward, 2002). As a fundamental objective of systematic reviews is to appraise a sufficiently broad range of studies to encompass the likely diversity of study designs (Higgins *et al.*, 2019), it is probable that the Netto *et al.* review did not capture all evidence available on the GLM's ability to reduce recidivism. Therefore, further evaluation of broader research methodologies and rehabilitation outcome measures is warranted.

Rationale for this review

The field of psychology is underpinned by ethical principles to safeguard the welfare of clients and "do no harm" (American Psychological Association [APA], 2017; Australian Psychological Society, 2007). Vital to upholding these principles is the practice of evidence-based interventions which meet the treatment needs of the client (APA, 2017). The field of forensic psychology is governed by these principles and it is critical that evidence-based rehabilitation practices are applied to ensure not only that offenders are provided with the greatest chance of reform but to protect the wider community. Currently, the evidence regarding the GLM's ability to reduce recidivism remains unclear, yet it is applied internationally (Fortune, 2018).

The aim of the present systematic review was to include broader research methodologies and evidence-based measures of recidivism to appraise the efficacy of GLM interventions that aim to reduce recidivism in adolescent and adult offenders. The research question being: What are the effects of GLM interventions on recidivism outcomes amongst offenders?

Method

The current review adhered to the most recent preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines (Page *et al.*, 2020). Despite recommendations by PRISMA to pre-register reviews to avoid duplication, due to contractual time constraints it was prohibitive to pre-register this review; however, a review protocol was developed and it was determined that no other reviews in this domain were being conducted. Interrater reliability checks were performed as outlined in the PRISMA procedures.

Search strategy

The following search terms were identified with the assistance of a University of Canberra Research Librarian: (reoffend* OR re-offend* OR recidiv* OR desist* OR "repeat offenders" OR effect* OR rehabilitat* OR "crime prevent*" OR prevent* OR outcome* OR risk OR

treat*) AND ("good lives model" OR "good lives" OR "GLM"). Truncated terms are denoted with "*".

The following databases were searched on 1 April 2020: PsycINFO, PsycARTICLES, SAGE journals, Psychology and Behavioural Science Collection, Wiley Online Library, Informit Health Collection, CINAHL, ProQuest Central Psychology Database, Cochrane Library, MEDLINE and Scopus. Unpublished literature was searched using the University of Canberra library database. Websites known to contain additional research, including the GLM website, Google Scholar and Research Gate, were also searched. Reference lists from the included studies were also examined for further relevant citations. Non-English language papers were excluded.

Eligibility criteria

As the GLM was developed in the early 2000s (Ward, 2002), only papers published between 2000 and 2020 were included in the screening process. As already discussed, RCTs are not commonly used to research correctional interventions. Therefore, to capture all available data, research studies using quasi-experimental, quantitative and qualitative research designs were included.

The included population were studies of convicted offenders with no limitations placed on age, gender or offending characteristics. The GLM is a theory of offender rehabilitation and does not have a specific treatment model (Ward and Maruna, 2007). Therefore, in accordance with operationalisation recommendations by Willis *et al.* (2014), the current review included interventions, which incorporated the following: explicit incorporation of the GLM principles of risk reduction and well-being enhancement, assessment and identification of primary goods and individualised treatment and self-management plans for the attainment of primary goods. For the purposes of this review, programmes, which met these criteria were termed *GLM-based interventions.* Interventions must have been applied in correctional settings, including prison, community or inpatient facilities. Where applicable, no restrictions were placed on comparative interventions.

Recidivism data was the primary outcome measure and was defined as repeat offending, return to prison or parole violation as indicated by official arrest records, convictions, reduction in the severity of offending type, charges or self-reported reoffending using a follow-up timeframe of two years or more (Yukhnenko *et al.*, 2019). Additional measures of recidivism outcomes were considered. It has been established that an offender's assessed level of *risk* of reoffending provides an accurate prediction of actual recidivism (Deming and Jennings, 2019). Empirical evidence has clearly demonstrated that actuarial approaches are reliable indicators of risk of recidivism (Andrews, 2006) and can consist of psychometric measures of behaviours, values or attitudes that are correlated with criminal activity such as substance abuse or unemployment. These are called *dynamic risk* factors, as they can be altered through intervention (Higgs *et al.*, 2020). Therefore, pre-post measures of dynamic risk factors were evaluated as secondary outcomes.

Procedure

During the first phase of screening, studies were considered if they included some evaluation of the GLM. Initial first stage search was completed by the first author, a specialised systematic review library advisor from the authors' university and in consultation with the second author. For full-text screening, the first and second authors developed the inclusion criteria. During the full-text screening, studies were included based on the following criteria:

- included convicted offender sample;
- met criteria for GLM-based intervention;

- programme was applied in either prison, community justice or in-patient facilities; and
- study included recidivism data or pre-post measures of dynamic risk.

Eligibility of studies was assessed in an un-blinded standardised manner by one reviewer using the software Covidence (Veritas Health Innovation, 2020) and any questionable studies were discussed and resolved in conjunction with the second author of this paper. Data extracted included study characteristics (author/s, title, year, journal and participants), methods (study design, intervention type, duration, goals and methodology), results (outcomes measured, recidivism outcomes and pre-post change to dynamic risk). Due to the inclusion of both quantitative and qualitative studies, data was anticipated to be heterogenous and a meta-analysis was not performed. Therefore, as per recommendations by Ryan (2013), a narrative synthesis was conducted. Data extraction was recorded using the Cochrane Method Extraction Template (Cochrane Collaboration, 2009).

Assessment of quality and risk of bias

As this review used quantitative and qualitative research designs, the validated mixed methods appraisal tool (MMAT) was used to assess methodological quality (Hong *et al.*, 2018). Five criteria specific to each type of research design are provided and are rated as either sufficient or insufficient. Scores out of 5 are recorded for each individual study, with higher scores indicating higher quality. Due to the limited number of studies identified for review and as recommended by Hong et al (2018), no studies were excluded based on methodological quality. However, the tool was used to guide the discussion of the quality of the current review's findings. Risk of bias is noted throughout this paper, especially throughout the discussion.

Results

Study selection

A total of six studies met the criteria for review. Refer to Figure 1 below for the PRISMA flow diagram.

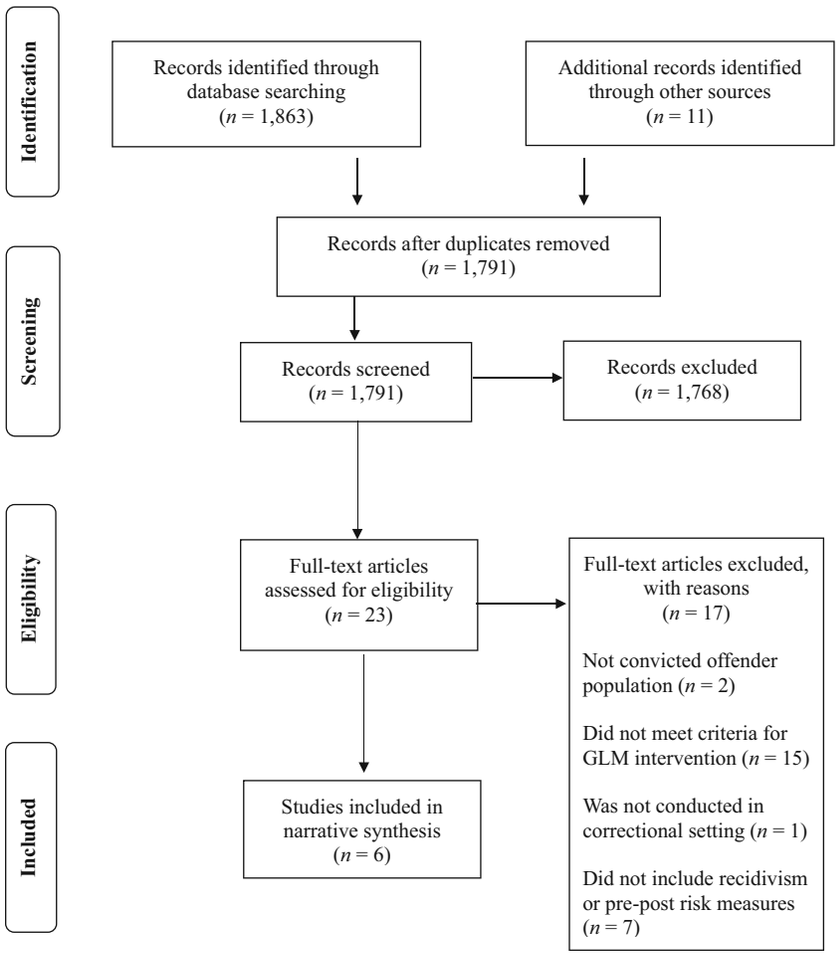
Characteristics of included studies

Of the six included studies, three were case study designs (Lindsay *et al.*, 2007; Whitehead *et al.*, 2007; Wylie and Griffin, 2013), two were pre-post-test designs (Barnett *et al.*, 2014; Harkins *et al.*, 2012) and one was a case-series design (Gannon *et al.*, 2011). No eligible RCTs were found for review.

Two of the six studies included comparative relapse prevention (RP) interventions (Barnett *et al.*, 2014; Harkins *et al.*, 2012). Five interventions were applied in community settings and one in an in-patient facility. Intervention timeframes ranged between 50 h and 20 months, however, length was undisclosed for two studies. Refer to Table 1 for characteristics of included studies.

A total of 287 participants were included across all six studies, with sample sizes varying between 1 and 202 participants (M = 47.83, SD = 74.03, Mdn = 3.5). Five studies (Barnett *et al.*, 2014; Harkins *et al.*, 2012; Gannon *et al.*, 2011; Lindsay *et al.*, 2007; Whitehead *et al.*, 2007) were conducted with male offenders between 18 and 60 years old and one study with an adolescent male of undisclosed age (Wylie and Griffin, 2013). Five of the studies included participants primarily convicted of sex offences, inclusive of one study with mentally disordered participants (Gannon *et al.*, 2011). One study was conducted with a violent offender (Whitehead *et al.*, 2007). Mean risk of reoffending was reported at baseline for five studies, inclusive of three studies with moderate risk offenders and two studies with

Figure 1 Search strategy and review process adapted from PRISMA group



Source: Moher *et al.* (2009)

high-risk offenders. One study did not report risk at baseline (Lindsay *et al.*, 2007). Refer to Table 2 for the summarised participant characteristics of included studies.

Methodological quality of studies

The MMAT was used to guide the appraisal of the quality of evidence on the GLM's effect on recidivism outcomes. As discussed, no studies were excluded based on methodological quality (Hong *et al.*, 2018). Refer to Table 1 for MMAT ratings of methodological quality of included studies. As discussed, the risk of bias was evaluated within the Discussion.

Results of individual studies

Outcomes assessed varied between the six included studies. Recidivism data was available for three studies (Lindsay *et al.*, 2007; Whitehead *et al.*, 2007; Wylie and Griffin, 2013), whereby the follow-up timeframe ranged 2 to 5 years. Three studies collected pre-post psychometric data of dynamic risk factors (Barnett *et al.*, 2014; Gannon *et al.*, 2011; Harkins *et al.*, 2012). Due to the lack of statistical information provided in the studies

Table 1 Summary of characteristics of included studies

Study	*Country*	*Design*	*Comparative intervention*	*Intervention duration*	*Intervention setting*	*Aims*	*MMAT rating*
Barnett *et al.* (2014)	England and Wales	Pre-post	RP programme	50 h	Community	To examine the differences between RP and GLM treatment programmes on attrition and risk	4
Gannon *et al.* (2011)	England	Case-series		7.5 months	In-patient facility	To provide a preliminary evaluation of a GLM treatment group	1
Harkins *et al.* (2012)	England and Wales	Pre-post	RP programme	180 h	Community	To compare the differences between a GLM and RP programme	3
Lindsay *et al.* (2007)	Not reported	Case study		Unspecified	Community	To operationalise GLM principles to provide practical treatment procedures	1
Whitehead *et al.* (2007)	New Zealand	Case study		Unspecified	Community	To illustrate the clinical relevance of the GLM using a case study	2
Wylie and Griffin (2013)	England	Case study		20 months	Community	To illustrate the clinical relevance of the GLM using a case study	1

Notes: RP = relapse prevention, MMAT denominator 5

Table 2 Summary of participant characteristics

Study	*n*	*Primary conviction*	*Gender*	*Ethnicity*	*Age (years)*	*Mean risk at baseline*
Barnett *et al.* (2014)	202	Sex offenders	Male	Caucasian	Adults (27–57)	Moderate
Gannon *et al.* (2011)	5	Mentally disordered sex offenders	Male	Caucasian	Adult (29–60)	Moderate
Harkins *et al.* (2012)	76	Sex offenders	Male	Caucasian	Adult (n/a)	Moderate
Lindsay *et al.* (2007)	2	Sex offenders	Male	Caucasian	Adult (21–42)	Not reported
Whitehead *et al.* (2007)	1	Violent offender	Male	Indigenous	Adult (28)	High
Wylie and Griffin (2013)	1	Sex Offender	Male	Caucasian	Adolescent (n/a)	High

included for review, effect sizes could not be calculated. Due to the quantitative and qualitative nature of studies, a narrative synthesis was performed. Refer to Table 3 for a summary of intervention outcomes.

Two studies examined recidivism outcomes. Both were conducted with participants convicted of sex offences (n = 3) and reported no incidences of recidivism at follow-up (Lindsay *et al.*, 2007; Wylie and Griffin, 2013). Participants across both studies remained conviction-free, inclusive of no parole or community order violations. A third study, conducted with a high-risk violent offender, reported three incidences of reoffending at follow-up (Whitehead *et al.*, 2007). Two incidents were self-reported occurrences of generalist offending, both of which did not result in convictions. The third occurrence was a conviction for a minor driving offence, which occurred 14 months post-release.

Two pre- post-test studies evaluated the difference in pre-post change to dynamic risk factors between GLM-based interventions and RNR-based RP programmes (Barnett *et al.*, 2014; Harkins *et al.*, 2012). A standardised battery of psychometric assessments captured pre-post change across factors of pro-offending attitudes, relapse skills and socio-affective functioning. Post-treatment, both studies assessed whether the difference between the treated profile of participants was non-significant to that of a non-offender sample. Findings from both studies indicated that change to risk achieved from GLM-based interventions was comparable to RP

Table 3 Summary of intervention outcomes

Study	*Follow-up timeframe*	*Recidivism outcomes*	*Pre-post risk outcomes*
Barnett *et al.* (2014)			42% and 37.2% of two GLM programme's participants achieved a significant reduction to risk across both programmes. Both GLM and RP programmes were determined to be ineffective
Gannon *et al.* (2011)			Change between pre- and post-treatment measures could not be determined
Harkins *et al.* (2012)			55% of GLM participants achieved a significant reduction to risk. Programme was determined to be effective
Lindsay *et al.* (2007)	5 years	No incidents of reoffending post-treatment	
Whitehead *et al.* (2007)	2 years	Two self-reported generalist offences, one driving conviction	
Wylie and Griffin (2013)	2 years	No incidents of reoffending post-treatment	

Note: RP = relapse prevention

interventions, however, despite the similar results, the conclusions reported by either study regarding the overall efficacy of the interventions were mixed. Harkins *et al.* (2012) interpreted their study findings positively and placed emphasis on the potential strengths of the GLM to support its further use in risk reduction and management. The study did not note outcome data for individual measures; however, it was reported that 55% of participants (n = 46) in the GLM group achieved a treated profile post-treatment. This was comparable to the RP group, where 53% (n = 197 of 368) of participants achieved a treated profile. The study found no significant differences in pre-post between the GLM and RP groups, $\chi^2(1) = 0.54$ and concluded both programmes were equally effective at reducing dynamic risk.

In contrast, Barnett *et al.* (2014) reported their findings more cautiously, stating the non-significant change achieved by both the GLM and RP programmes required further evaluation.

The study compared risk outcomes across two GLM and two RP programmes. Non-significant reductions across individual risk measures post-intervention were observed for participants in GLM programmes. At post-treatment, it was reported 42% (n = 37) and 37.2% (n = 32) of participants within GLM programmes achieved a treated profile post-treatment. Across the RP groups, 22% (n = 26) and 9.5% (n = 9) of participants achieved a treated profile, although it was noted data was incomplete for 23% of participants in the RP group, therefore, differences between the GLM and RP programmes could not be calculated. The researchers concluded regardless of the treatment approach, both interventions appeared ineffective at reducing dynamic risk and further research was required.

Finally, a case series by Gannon *et al.* (2011) evaluated a GLM intervention with mentally disordered sex offenders. A battery of pre-post dynamic risk measures and Good Lives Checklist – a series of measures of primary goods offending motivators – was administered. However, no mean outcomes were reported due to high rates of incompletion. Change across the measures could not be determined such that the intervention's ability to reduce risk was unclear (Gannon *et al.*, 2011).

Discussion

The aim of this systematic review was to evaluate the effects of GLM-based interventions on recidivism outcomes. This review identified six empirical studies eligible for appraisal, which

included the primary outcome measure of recidivism data (n = 3) or the secondary outcome measure of pre-post measures of dynamic risk (*n* = 3). Findings are discussed in relation to the primary and secondary outcomes below.

Recidivism outcomes

The effectiveness of the GLM at reducing recidivism was supported across three case studies, inclusive of two studies (Lindsay *et al.*, 2007; Wylie and Griffin, 2013) which demonstrated that participants completely refrained from reoffending at follow up. Both studies were conducted with sex offenders, who typically re-offend after longer periods than other offending populations (Langan *et al.*, 2003). Given the longer follow-up period included in Lindsay *et al.*'s (2007) study, this outcome was suggestive of the GLM's ability to sustain reform by increasing motivation to desist from reoffending. A third case study noted three incidences of reoffending, which occurred post-treatment (Whitehead *et al.*, 2007). However, in accordance with the theoretical constructs of the GLM, positive behavioural change was evident, as these offences were of a marked reduction in nature and severity of offending – also referred to as evidence of "harm reduction" in the relevant literature (Laws, 1996). Overall, findings across these studies indicated that the GLM motivated offenders to achieve primary goods in prosocial ways, thereby reducing recidivism.

Risk outcomes

Two pre-post studies provided evidence to suggest that GLM-based interventions may be effective at reducing dynamic risk when the treatment length is appropriately matched to the needs of the offender (Barnett *et al.*, 2014; Harkins *et al.*, 2012). Both studies were conducted with moderate risk offenders, however, the treatment length provided by Barnett *et al.* (2014) was markedly shorter than that of the Harkins *et al.* (2012) – 50 h versus 180 h, respectively. Further, examination of individual pre-post risk measures in the study by Barnett *et al.* (2014) indicated a consistent, yet non-significant reduction across individual measures of risk domains post-treatment. Given that RNR principles, which are incorporated into the GLM (Ward *et al.*, 2007), state the length of the intervention should reflect the risk of the offender (Serin and Lloyd, 2017), the 50 h of treatment provided in Barnett *et al.*'s (2014) study may not have been of adequate length to result in a similar degree of significant post-treatment change as was observed in the Harkins (2012) study.

Further, both studies concluded that the outcomes from both the GLM and RP programmes were comparable. Given the significant evidence in support for RNR-based RP programmes, this finding was surprising in Barnett *et al.*'s (2014) study, which determined that both GLM and RP programmes were ineffective. This finding may have been impacted by high rates of attrition observed throughout the RP programme but was suggestive of the GLM's ability to enhance motivation and remain engaged throughout treatment. However, the overall sample of 287 participants included in this current review is not sufficient to make comparisons of the efficacy of GLM against the RNR model, which has been empirically established amongst diverse offending populations over 50,000 participants (McGuire, 2005).

Outcomes measures from one further study could not be evaluated (Gannon *et al.*, 2011). Whilst the study aimed to capture both changes to risk and motivation for offending in the context of primary goods attainment, participants were provided with unmodified general population scales not suited to their differential and complex needs and were, therefore, unable to complete both pre-and post-measures. Future research with these samples would need to carry out readability analysis of scales and scale amendments to ensure that they are suited to the needs of the offending population and accurately capture change across both risk and the theoretical constructs of the GLM.

Limitations

The current review was subject to several limitations which require consideration. Primarily, findings within this review are limited to a small number of studies with a small cumulative sample of participants. Despite over 1,800 publications available on the GLM, there was a paucity of empirical studies conducted on the model. Of further concern was the outdated nature of the research, with the most recent empirical study evaluating the effects of the GLM on recidivism outcomes conducted in 2014. This may be due to the nature of the appeal of the GLM, as the promising nature of the model may have led to expectations that widespread application would lead to data supporting its use.

Consistent with prior research by Netto *et al.* (2014), high-quality evidence from published sources could not be located. All studies eligible for review were observational designs, which can be prone to overestimating treatment effects and findings are, therefore, regarded as less valid (Fariss and Jones, 2018). However, as discussed, it was necessary to include and evaluate the research of lower methodological quality to appraise the effects of GLM interventions on recidivism outcomes. Inherent with this approach is the increased likelihood of bias within the literature (Reeves *et al.*, 2019).

Bias in domains relevant to corrections research was considered across studies. Four studies included in the review were co-authored by developers of the GLM, however, as the studies were blind peer-reviewed, the impact of reporting bias was noted but deemed to be minor (Wadams and Park, 2018). Selection and performance bias were identified as potential issues within the two included pre- post-test studies, as significant baseline differences between groups were noted in Barnett *et al.* (2014) and not accounted for in Harkins *et al.* (2012). Within the review, the process of performing a narrative synthesis of data, whilst required due to the nature of the included studies, is an approach that is inherently subjective, and therefore prone to reporting bias (Popay *et al.*, 2006).

As no effect sizes were reported, the clinical impact of the interventions was difficult to determine. Generalisability of findings was limited due to the small sample size. Further, there was a lack of participant diversity, with all six studies conducted in community settings with men – a majority of whom were Caucasian adults convicted of sex offences. Given that research has suggested that sex offenders have unique criminogenic needs (Craig *et al.*, 2013), the applicability of these findings should not be assumed to apply to other offender populations. Also, given the current, widespread application of the GLM amongst non-sex offender populations, this is a concerning breach of the principles of evidence-based practice.

Building the evidence: Future evaluation research

The above findings provided limited evidence for the efficacy of the GLM at reducing recidivism. Also, whether these findings translate into actually reduced recidivism rates amongst offenders could not be established in this review and requires further empirical investigation. Moreover, currently, the evidence base is too limited to confidently endorse the GLM as an evidence-based theory of offender rehabilitation. As a result, we contend that before the GLM can ethically be applied in correctional settings or rigorously compared against the RNR model, further empirical evaluation is required to elucidate its effects on recidivism reduction amongst various offender populations.

Due to the ethical difficulties associated with conducting research in correction settings, future studies should aim to gain high-quality evidence on the GLM through more stringent research designs such as wait-list control groups. However, in lieu of this, studies should aim to evaluate the efficacy of the model using research methodologies, which incorporate include prospectively allocated comparison groups that are matched for risk amongst diverse offending populations. Further, as recommended by Van Der Veeken *et al.* (2016), to satisfy the evidence of good practice future studies should aim to use the following valid

and reliable outcome measures when evaluating the effects of GLM interventions on recidivism outcomes:

- Actual rates of recidivism, as informed by criminal records and history within a 2-year period;
- Technical breaches, as informed by parole files. Can include breaches of community orders or parole conditions;
- Reduction in nature and severity of offending, as informed by parole files, self-report, prison records and criminal history;
- Concrete measures of elements of "the good life" to capture change to skills and capabilities linked to primary goods attainment and broader change achieved in accordance with the theory of the GLM;
- Evidence of reliable pre-post variable change to risk of recidivism such as actuarial approaches consisting of valid and reliable psychometric measures which capture change across dynamic risk factors; and
- Comparisons in recidivism rates between strict GLM programmes and those which contain elements of the model within other rehabilitation frameworks.

Additionally, as highlighted by Gannon *et al.* (2011), if the GLM were to be applied to offender populations with needs different to the general population such as intellectually disabled or mentally disordered offenders, there is a need to tailor such implementation to meet the needs of the participants. Use of appropriate pre-post programme measures with good face validity, high internal consistency and good construct validity would ensure that the efficacy of the GLM can accurately be captured across the diverse offending populations to which it is applied.

Studies, which use the above research methodologies would help to provide empirical support for the effectiveness of the GLM as a primary rehabilitation modality amongst convicted offenders, as well as help, elucidate the different types of offenders and settings for which the model is most effective. This would inform evidence-based practice, crime policy and ensure that offenders are provided with the greatest chance at reform.

Conclusion

The conclusions reached in this paper and the implications for practice, are based on the relatively small number of papers that met the inclusion criteria. This review assessed the evidence from this small number of papers establishing the utility of the GLM as a theopathic model for reducing recidivism risk in offender samples. Most participants in the studies included in this review were sex offenders. As of June 2021, it appears given the published evidence the GLM cannot be purported to be an offender rehabilitation framework that is underpinned by evidence-based practice that can reduce recidivism risk. Further evidence to establish the efficacy of GLM needs to be gathered. This evidence needs to be established through more rigorous empirical approaches such as clinical trials using pre and post measurement of risk in standardised designs.

Using the described systematic review methodology, the current study identified six studies for analysis. These studies resulted in three key findings in relation to the effects of the GLM on recidivism outcomes amongst convicted offenders:

1. as shown in half of the studies in the review, the GLM did not increase recidivism risk;
2. as shown in the other half of the studies in the review, the GLM appeared to be effective at reducing recidivism risk when the correct treatment length was applied; and

3. there was limited evidence that the GLM had the ability to increase and sustain motivation for resistance from reoffending (i.e. non-recidivism).

However, whether these findings are associated with actually reduced rates of recidivism could not be established. In addition, the review found insufficient data to compare the efficacy of the GLM against the RNR model.

Implications for practice

1. Currently, the evidence supporting the GLM is limited and not yet sufficient to endorse its use over other empirically established rehabilitation frameworks or to establish the GLM as a stand-alone robust evidence-based treatment, which is effective in reducing recidivism in any group of offenders, including sex offenders.
2. To obtain adequate evidence to support the use of the GLM in correctional settings with various offender populations, future research should aim to use rigorous scientific evaluation methods, as well as valid and reliable use of recidivism and pre-post programme outcome measures which are appropriately suited to the population.

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