

# The Relationship Between Exercise and Mental Health Functioning: A Literature Review

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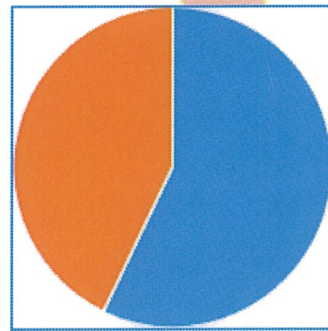
## Background

Mental illness is a common disorder in New Zealand, with a predicted 46.6% of the New Zealand population thought to meet the criteria for mental disorder at some stage in their lives (Oakley Browne, Wells, & Scott, 2006). In 2013, a record 3.5% of New Zealand's population accessed mental health and addiction services (Ministry of Health, 2014) indicating a need for further development of mental health services.

Physical activity has many health benefits however most research focuses on the physical health benefits rather than the mental health benefits. I wanted to research the relationship between exercise and mental disorders to analyse the data and clinical significance.

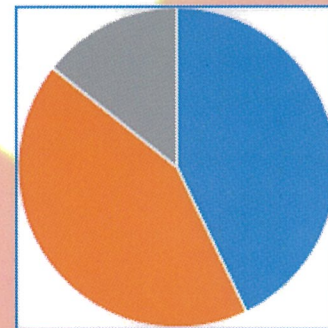
Using the PECOT model (Whitehead, 2013), I developed the review question "How well do interventions to increase physical activity improve mental health functioning in adults with severe mental illness".

### Type of Sessions



- Group sessions only
- Group and individual session

### Type of Interventions



- Exercise intervention
- Both interventions
- Motivational and/or educational intervention

## The Literature

Seven articles were analysed (Van Citters et al., 2010; Goldberg et al., 2013; Fogarty & Happell, 2005; Carless & Douglas, 2008; Carless & Douglas, 2012; Usher, Park, Foster, & Buettner, 2013; Daumit et al., 2011) which utilised various forms of exercise intervention and/or motivation and education techniques. The variation in session and intervention type can be seen in the charts on the right. The length of the studies ranged from 3 to 18 months and the number of study participants ranged from two (a qualitative narrative of two case studies) to 109. All literature was found on the CINAHL Complete database.

## Discussion

All seven of the articles analysed showed some form of improvement in mental health functioning of the participants, whether it be quantitative data such as comparing depression scores from baseline to follow-up as in Daumit et al., (2011) or using qualitative data such as in Carless et al. (2008) using semi-structured interviews with participants and others involved. As both the interventions and methods of measuring mental health functioning varied greatly it is difficult to come to a definitive conclusion as to what the best way to improve mental health functioning is, but it does establish that these interventions have made a positive difference.

## Recommendation

With this in mind, I conclude that individuals with severe mental illness will benefit from physical activity interventions. I recommend that mental health services consider implementing physical activity sessions as a part of rehabilitation, which may be tailored to suit each organisation and the way they choose to provide their services.

## Continuing Research

I noticed a theme among a couple of the research articles which may have other explanations for the results and will need to be ruled out with continuing research to confirm the reliability of the results. Both Van Citters et al. (2010) and Goldberg et al. (2013) found results which may indicate improved mental health functioning has a closer relationship to involvement in social activities than to physical activity itself, as an increase in meetings with a health mentor lead to an increase in mental health functioning (Van Citters et al., 2010), and both a control group and an intervention group recorded an improvement in mental health functioning, although the intervention group received a higher level of motivational techniques to inspire implementation of self-directed exercise and positive dietary changes (Goldberg et al., 2013). It is uncertain whether the relationship between mentor contact and mental health functioning is due to the amount of time spent in a social situation or whether the level of mental health functioning played a role in determining whether the participant chose to participate in the social contact.

References: Carless, D., & Douglas, K. (2008). The role of sport and exercise in recovery from serious mental illness: Two case studies. *International Journal of Men's Health*, 7, 137-156. doi: 10.3149/jmh.0702.137; Carless, D., & Douglas, K. (2012). The ethos of physical activity delivery in mental health: a narrative study of user experiences. *Issues in Mental Health Nursing*, 33, 165-171. doi: 10.3109/01612840.2011.637659; Daumit, G. L., Dalcin, A. T., Jerome, G. J., Young, D. R., Charleston, J., Crum, R. M., . . . Appel, L. J. (2011). A behavioural weight loss intervention for persons with serious mental illness in psychiatric rehabilitation centers. *International Journal of Obesity*, 35, 1114-1123. doi: 10.1038/ijo.2010.224; Fogarty, M., & Happell, B. (2005). Exploring the benefits of an exercise program for people with schizophrenia: A qualitative study. *Issues in Mental Health Nursing*, 26, 341-351. doi: 10.1080/01612840590915711; Goldberg, R. W., Goldberg, L. P., Reeves, G., Ryan, A. S., Tapscoott, S., Fang, L. J., . . . Dickerson, F. (2013). "MOVE!": Outcomes of a weight loss program modified for veterans with serious mental illness. *Psychiatric Services*, 64, 737-744. doi: 10.1176/appi.ps.201200314; Ministry of Health. 2014. Office of the Director of Mental Health Annual Report 2013. Wellington: Ministry of Health; Oakley Browne, M. A., Wells, J. E., Scott, K. M. (eds). (2006). *Te Rau Hinengaro - The New Zealand Mental Health Survey: Summary*. (ISBN: 0-478-30052-2) Wellington: Ministry of Health; Usher, K., Park, T., Foster, K., & Buettner, P. (2013). A randomized controlled trial undertaken to test a nurse-led weight management and exercise intervention designed for people serious mental illness who take second generation antipsychotics. *Journal of Advanced Nursing*, 69, 1539-1548. doi: 10.1111/jan.12012; Van Citters, A. D., Pratt, S. I., Jue, K., Williams, G., Miller, P. T., Xie, H., & Artels, S. J. (2010). A pilot evaluation of the In SHAPE individualized health promotion intervention for adults with mental illness. *Community Mental Health Journal*, 46, 540-552. doi: 10.1007/s10597-009-9272-x; Whitehead, D. (2013).



I chose to make a poster presentation opposed to writing a submission primarily due the content of my recommendations. My main recommendation was that mental health services consider implementing physical activity or physical health interventions in order to promote rehabilitation and improvement in mental health functioning, however, I was unable to specify exactly what type of interventions these should be or how they should be implemented. In my opinion, this is much too vague advice to direct at a specific group or individual. Academic poster presentations offer the opportunity to present information which may not be as appropriate in other, more formal presentations (Singh, 2013). Rather, if I share my findings to a diverse group of people it is more likely to have an influence to the larger population. My other recommendation was to further research in the area. I believe I possess the computer skills to create a poster that will capture the attention of an audience while communicating my message efficiently, using an engaging colour scheme and a smooth layout with stimulating yet crisp information. In achieving what I aim to create, I hope to inspire others who may have the means to conduct these studies to further the research in this area. As an author of an academic poster I believe in the importance of presenting my information and in my ability to do so, which is important in the creation of any academic poster (Briggs, 2009).

References:

Briggs, D. J. (2009). A practical guide to designing a poster for presentation. *Nursing Standard*, 23, 35-39.

Singh, A. (2013). How to develop a poster for presentation. *Technic: The Journal of Operating Department Practice*, 4, 7-9.

<u>Population:</u>	Adults with severe mental illness
<u>Exposure:</u>	Physical activity intervention
<u>Control:</u>	Adults with severe mental illness who have not had a physical activity intervention (assumed to be equivalent to the intervention population at baseline assessment)
<u>Outcome:</u>	Changes to mental health functioning
<u>Time:</u>	No specific length of time has been chosen