

Theoretical Analyses

Functional Significance of Participation Motivation on Physical Activity Involvement

Dev Roychowdhury*^a

[a] DR PSYCHOLOGY, Melbourne, Australia.

Abstract

Several researchers have examined the motives people have for participating in a range of physical activities. Studies involving various physical activities have consistently shown that individuals exhibit motivational differences based on the type of sport or exercise activity in which they are involved in. There is, however, a paucity of research examining the functional significance of participation motives based on the type of physical activity. The objective of the present paper is to study the association between the primary characteristics for activity types and the motivational proclivity of individuals for engaging in those activities.

Keywords: participation motivation, physical activity, sport, exercise, leisure

Psychological Thought, 2018, Vol. 11(1), 9–17, doi:10.5964/psyct.v11i1.255

Received: 2018-02-27. Accepted: 2018-03-26. Published (VoR): 2018-04-27.

Handling Editors: Irina Roncaglia, The National Autistic Society (NAS) - Sybil Elgar, London, United Kingdom; Stanislava Stoyanova, South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

*Corresponding author at: A Bus No: 604 426 057, c/o DR PSYCHOLOGY, Melbourne, Australia. E-mail: info@drdevroy.com



This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Participation in physical activity has well documented benefits on the overall wellbeing of individuals (Frederick & Ryan, 1993; Frederick-Recascino & Morris, 2004; Lloyd-Jones et al., 2010). Despite this, people are gradually becoming content with a sedentary lifestyle. Several researchers have regarded physical inactivity as a major risk factor for a range of health conditions (Bravata et al., 2007; Gavin, Keough, Abravanel, Moudrakovski, & Mcbrearty, 2014; Warburton, Nicol, & Bredin, 2006), and overall global morbidity and mortality (Murphy & Eaves, 2016; World Health Organization, 2010).

Several psychological variables have been identified as causal factors for physical activity participation. One such variable that has received considerable attention in sport and exercise domain is motivation (Roychowdhury, 2012, 2018). Although there has been an explosion of research investigating the relationship between motives and physical activity involvement (e.g., Frederick, 1991; Frederick & Ryan, 1993; Gill, Gross, & Huddleston, 1983; Kozub & Farmer, 2011; Kravitz, 2011; Morris, Clayton, Power, & Han, 1995, 1996), the determinants of participation motivation have received scant attention. The purpose of the present paper is to scrutinize ways in which participation motivation has been characterized in the physical activity literature.

Theoretical Approaches and Participation Motivation

Numerous researchers have addressed and investigated the role motivation plays in behavioural dispositions. For instance, [Freud \(1923\)](#) argued that instinctual needs drive motivated behaviour (in [Hull, 1943](#)). [Skinner \(1971\)](#), on the other hand, reasoned that individuals maintained motivated behaviour depending on environmental exigencies. Several other researchers have also proposed theories and attempted to investigate and understand the concept of motivation within sport and exercise contexts ([Roychowdhury, 2012](#)). This includes Need for Achievement Theory ([Atkinson, 1964](#)), Theory of Competence Motivation ([Harter, 1978](#)), Attribution Theory ([Weiner, 1979, 1985](#)), Theory of Goal-setting ([Locke & Latham, 1984](#)), and Self-Efficacy Theory ([Bandura, 1986](#)). Subsequently, the three theories that have contributed immensely to the research on motivation within the physical activity literature are Self-Efficacy Theory ([Bandura, 1986](#)), Achievement Goal Theory (AGT; [Nicholls, 1989](#)), and Self-Determination Theory (SDT; [Deci & Ryan, 1985, 1991](#)).

In Achievement Goal Theory (AGT), [Nicholls \(1989\)](#) proposed task and ego involvement goal orientations and maintained that individuals participate in physical activity based on their preferred goal orientation. For instance, ego-involved individuals are primarily concerned with their capacity to outperform their adversaries. On the other hand, task-involved individuals are primarily concerned with their own ability to master any given task. It is, therefore, plausible to believe that ego-involved individuals may engage in physical activity that involves head-to-head competition, whereas task-involved individuals may opt for physical activity that helps them improve their skills in those activities.

[Bandura \(1986\)](#) construed self-efficacy as a person's belief in their own competence. Individuals develop their efficacy through their interactions with the environment and use the efficacy expectations to instigate and persevere in an activity. In sport and exercise context, high self-efficacy is theorized to reflect high motivation to participate in physical activity.

The Self-Determination Theory (SDT) begins with the premise that there are three primary needs that motivate individuals - autonomy, competence, and relatedness ([Deci & Ryan, 1985, 1991](#)). Moreover, the needs for autonomy and competence also form the foundation for the intrinsic-extrinsic motivation dichotomy, which has been widely researched in the sport and exercise psychology literature ([Deci & Ryan, 1985, 1991](#)). [Deci and Ryan \(2000\)](#) suggest that individuals' inclination for participating in any type of physical activity depends on their intrinsic-extrinsic aspirations, or *goal contents*. This suggests that discrete participation motives may carry distinctive operational relevance depending on their intrinsic-extrinsic motivational alignment.

Intrinsic motivation refers to participating in any form of physical movement for the inherent fun and pleasure, whereas extrinsic motivation refers to participating in an activity due to contributory reasons, such as external rewards or demands ([Roychowdhury, 2012](#)). For instance, a cricket player who is motivated to play in a match for the inherent satisfaction is said to be intrinsically motivated, whereas a player who competes in a match due to sponsor's demands or need for fame or social recognition from others is considered to be extrinsically motivated.

In other words, individuals engage in specific forms of physical activities based on their primary participation motivation for those activities. For instance, a taekwondo athlete might participate in martial arts to satiate their intrinsic motive to achieve mastery over the skills, whereas a social fitness exerciser might engage in lifting weights in order to satisfy their extrinsic need to enhance physical attractiveness and appearance.

Motivational Differences Based on Types of Physical Activity

One area of research on participation motivation has been to examine whether individuals exhibit motivational differences depending on the form of sport or exercise activity in which they are involved in. Systematic differences have been reported by researchers who have examined the connection between participation motives and specific types of physical activity (e.g., [Frederick & Ryan, 1993](#); [Morris et al., 1995, 1996](#); [Rogers, Morris, & Moore, 2008](#); [Roychowdhury, 2012](#); [Ryan, Frederick, Lepas, Rubio, & Sheldon, 1997](#)). For instance, in a landmark study in Australia, [Morris et al. \(1995, 1996\)](#) scrutinized the participation motivation of 2,601 individuals, who engaged in 14 different kinds of physical activities, which included team, racquet, and individual body movement sports; recreational exercise activities; and martial arts. Subsequently, Morris and colleagues conducted discriminant function analyses and discovered that individual sport participants were more interested in enjoyment and mastery, martial arts participants were more interested in honing body and mind-related skills, team sport participants placed more importance on affiliation, racquet sport participants considered challenge or competition/ego as more important, and exercise participants were more interested in physical condition and appearance, than any other group ([Morris et al., 1995, 1996](#); [Roychowdhury, 2012, 2018](#)). It was also observed that individual sport participants' involvement in physical activity was characterized by inherent fun and satisfaction, which reflects an intrinsic motivation orientation, whereas exercise participants seemed to engage in physical activity primarily due to contributory factors, which reflects an extrinsic motivation orientation.

Participation Motivation in Sport and Exercise Groups

[Markland and Hardy \(1997\)](#) examined motivational differences between participants in community based aerobics classes and participants enrolled in a weight-watching program. They found that the aerobics group significantly discriminated from the weight-watching group on a number of motives, namely enjoyment, affiliation, fitness, personal development, stress management, and revitalization, and had significantly elevated scores on autonomy and competence motivation.

In another study, [Frederick and Ryan \(1993\)](#) segregated participants into two sports groups namely, the fitness activity participants (e.g., weightlifters and aerobics participants) and the individual sport participants (e.g., tennis players and martial arts participants). An analysis of the data revealed that individual sports participants showed greater interest in competence and engagement in their activity, and significantly lower interest in appearance, than fitness activity participants.

[Ryan et al. \(1997\)](#) compared the motivational differences between taekwondo participants and aerobics class participants. They found that taekwondo participants showed higher levels of enjoyment and competence than did the aerobics' participants. On the other hand, aerobics class participants were found to have significantly higher body-related motives than the taekwondo participants. In another study, [Frederick \(1999\)](#) compared the motivational differences between a sport group and a fitness activity group and observed that the sport group placed more importance on interest/enjoyment and competence than the fitness activity group.

More recently, [Roychowdhury \(2012\)](#) validated a comprehensive measure of participation motivation – the Physical Activity and Leisure Motivation Scale (PALMS) – and used it to examine participation motivation of

individuals engaging in a range of sport and exercise activities, including Australian Football League, gym-based exercise, tae kwon do, tennis, and yoga. The study included examining the internal consistency and criterion validity of the PALMS, as well as testing the proposed model of PALMS subscales in a confirmatory factor analysis. This study was the first of its kind to validate the PALMS and subsequently use it to examine participation motivation. The study found that intrinsically motivated individuals (those who tend to engage in physical activity due to the inherent fun and satisfaction) tended to engage in physical activity over the long-term and reported being more satisfied with their engagement as compared to extrinsically motivated individuals (those who tend to engage in physical activity due to instrumental reasons, such as rewards and approval). Significant motivational variances were also observed amongst several key demographic variables, such as gender, age, and level of participation.

Participation Motivation Across Age Groups

Research on age differences in participation motivation suggests that the intentions individuals have for engaging in physical activity change as they age. Researchers have found that the primary motivation that underlies youth participation in sport and exercise is intrinsic motivation, with more emphasis on motives such as fun, enjoyment, skill development, and challenge, than other motives (Buonamano, Cei, & Mussino, 1995; Gill et al., 1983; Klint & Weiss, 1986; Sapp & Haubenstricker, 1978; Whitehead, 1995). Researchers also found that participation motivation for adults encompassed a broad range of motives that reflected both intrinsic and extrinsic motivation orientation (Biddle & Bailey, 1985; Gill, Williams, Dowd, Beaudoin, & Martin, 1996; Mathes & Battista, 1985; Summers, Machin, & Sargent, 1983; Summers, Sargent, Levey, & Murray, 1982). And finally, older adults have been found to participate in regular physical activity less than their younger counterparts (Leventhal, Prohaska, & Hirschman, 1985), and usually do so for relaxation and aesthetic purposes. Frederick (1999) examined age-related motivational differences in individuals between 18 and 51 years of age, and noted that both intrinsic and extrinsic motivation declined as individuals age.

Participation Motivation and Gender Differences

Studies on gender differences within the participation motivation literature suggest systematic differences between the reasons males and females nominate for participating in physical activities. For instance, Mathes and Battista (1985) reported that males rated competition and females rated social experience as their principal motives for physical activity participation. Similarly, Frederick, Morrison, and Manning (1996) found that males appeared to be more interested in mastery, whereas females seemed to be more concerned with physical attractiveness and appearance. Several other studies have also reported that females consistently showed higher preference for appearance and fitness motives than males (Frederick & Morrison, 1996; Frederick, Morrison, & Manning, 1996; Frederick & Ryan, 1993; Roychowdhury, 2012, 2018; Weinberg et al., 2000).

Participation Motivation and Social Groups

Researchers suggest that the factors affecting participation motivation may be exacerbated for individuals with special needs and from lower socio-economic classes (Bauman, Bellew, Vita, Brown, & Owen, 2002). Seippel

(2006) maintains that individuals belonging to the higher socio-economic classes focus more on the fun aspect of their physical activity involvement, whereas individuals from lower socio-economic classes tend to lay more emphasis on social and instrumental reasons for participating in physical activity.

Participation Motivation and Physical Activity Involvement

From the literature reviewed on participation motivation in physical activity, it can be hypothesized that there exists a functional association between particular physical activity types and the individuals' predilection toward those activities. The research findings clearly indicate that discrete motives for participation distinctly demarcate between the diverse types of physical activities. In other words, participation motives are intertwined with particular categories of physical activities. Moreover, it is apparent that distinct motives for participation will bear distinct functional relevance based on the form and type of physical activity. It is understandable that individuals have different motives for participating in a range of physical activities. Also, it is clear that the determinants of participation motivation influence individuals' engagement in physical activity. Although individuals may designate various reasons for participating in physical activity, their participation in their chosen physical activity may be characterized by very specific and often primary participation motives. This indicates that there exists an association between the key characteristics for particular physical activity type and the predilection of individuals for engaging in those activities. Thus, various types of physical activities can be categorized based on the primary participation motives for those activities.

It is evident from the literature that various forms of physical activity can be functionally characterized by the principal participation motives individuals nominate for engaging in those activities. Also, it is evident that physical activity involvement depends on a number of determinants, such as age, gender, and social class/status. Such findings have important implications for future research and practice. Health professionals could use this knowledge to develop efficient and tailored interventions that would effectively help to motivate people to undertake physical activity which would subsequently increase adherence. Based on their primary motives for participation, individuals may be matched to a specific and appropriate type of physical activity. For instance, youths may be advised to engage in physical activities that reinforce motives such as fun and challenge, thereby fulfilling their underlying need for intrinsic motivation. Similarly, intrinsically motivated individuals may be advised to engage in activities where they can experience inherent enjoyment and playfulness. Also, individuals who are concerned with gaining social benefits may be advised and encouraged to engage in team sports. Matching individuals with appropriate physical activity will greatly increase adherence and reduce drop-outs, thereby maximizing satisfaction. Future research on participation motivation could focus on conducting longitudinal and comparative analyses in multi-sport and exercise domains in an attempt to understand how individuals' motives for participation in physical activity affect their behavioural dispositions.

Conclusion

The present paper builds on previous work in this domain (e.g., [Frederick-Recascino & Morris, 2004](#); [Morris et al., 1995, 1996](#); [Rogers, Morris, & Moore, 2008](#); [Roychowdhury, 2012, 2018](#)) and represents a novel contribution to the work that has already been undertaken in this topic thus far. For instance, the current paper focuses on identifying and addressing the functional significance of participation motivation on physical activity

involvement. Based on the literature reviewed, it is argued that individuals often nominate different participation motives for engaging in different kinds of physical activities. That is, distinct participation motives clearly distinguish between different types of physical activities. This has important implications for future research and practice. By determining and understanding individuals' motivation for an activity, health professionals can develop effective interventions to motivate people to engage in physical activity. Also, individuals could be matched to a particular form of physical activity based on their principal participation motives, which will greatly increase adherence and reduce drop-outs, thereby maximizing satisfaction. This has huge implications in the modern world that has been witnessing a sharp decline over the past decade in physical activity involvement and adherence and the consequent rise of sedentary behaviours and associated health risks.

Funding

The author has no funding to report.

Competing Interests

The author has declared that no competing interests exist.

Acknowledgments

The author has no support to report.

References

- Atkinson, J. W. (1964). *An introduction to motivation*. Princeton, NJ, USA: Van Nostrand.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, USA: Prentice Hall.
- Bauman, A., Bellew, B., Vita, P., Brown, W., & Owen, N. (2002). *Getting Australia Active: Towards better practice for the promotion of physical activity* [National Public Health Partnership, Melbourne, Australia]. Retrieved from http://www.sportni.net/sportni/wp-content/uploads/2013/03/getting_Australia_active.pdf
- Biddle, S. J. H., & Bailey, C. I. A. (1985). Motives for participation and attitudes toward physical activity of adult participants in fitness programs. *Perceptual and Motor Skills*, 61(3), 831-834. doi:10.2466/pms.1985.61.3.831
- Bravata, D. M., Smith-Spangler, C., Sundaram, V., Gienger, A. L., Lin, N., Lewis, R., . . . Sirard, J. R. (2007). Using pedometers to increase physical activity and improve health: A systematic review. *Journal of the American Medical Association*, 298(19), 2296-2304. doi:10.1001/jama.298.19.2296
- Buonamano, R., Cei, A., & Mussino, A. (1995). Participation motivation in Italian youth sport. *The Sport Psychologist*, 9(3), 265-281. doi:10.1123/tsp.9.3.265
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York, NY, USA: Plenum.

- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Perspectives on motivation* (pp. 237-288). Lincoln, NE, USA: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and the “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. doi:10.1207/S15327965PLI1104_01
- Frederick, C. M. (1991). *An investigation of the relationship among participation motives, level of participation, and psychological outcomes in the domain of physical activity* (Unpublished doctoral dissertation). University of Rochester, New York, NY, USA.
- Frederick, C. M. (1999). *Measuring participation motivation in sport: The MPAM approach*. Paper presented at the First International Conference on Self-Determination Theory, Rochester, New York, NY, USA.
- Frederick, C. M., & Morrison, C. S. (1996). Social physique anxiety: Personality constructs, motivations, exercise attitudes, and behaviors. *Perceptual and Motor Skills*, 82(3), 963-972. doi:10.2466/pms.1996.82.3.963
- Frederick, C. M., Morrison, C. S., & Manning, T. (1996). Motivation to participate, exercise affect, and outcome behaviors toward physical activity. *Perceptual and Motor Skills*, 82(2), 691-701. doi:10.2466/pms.1996.82.2.691
- Frederick, C. M., & Ryan, R. M. (1993). Differences in motivation for sport and exercise and their relations with participation and mental health. *Journal of Sport Behavior*, 16(3), 124-146.
- Frederick-Recascino, C., & Morris, T. (2004). Intrinsic and extrinsic motivation in sport and exercise. In T. Morris & J. Summers (Eds.), *Sport Psychology: Theory, applications and issues* (pp. 121-151). Brisbane, Australia: John Wiley and Sons.
- Freud, S. (1923). *The Ego and the Id*. New York, NY, USA: Norton.
- Gavin, J., Keough, M., Abravanel, M., Moudrakovski, T., & Mcbrearty, M. (2014). Motivations for participation in physical activity across the lifespan. *International Journal of Wellbeing*, 4(1), 46-61. doi:10.5502/ijw.v4i1.3
- Gill, D. L., Gross, J. B., & Huddleston, S. (1983). Participation motivation in youth sports. *International Journal of Sport Psychology*, 14(1), 1-14.
- Gill, D. L., Williams, L., Dowd, D. A., Beaudoin, C. M., & Martin, J. J. (1996). Competitive orientations and motives of adult sport and exercise participants. *Journal of Sport Behavior*, 19(4), 307-318.
- Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. *Human Development*, 21(1), 34-64. doi:10.1159/000271574
- Hull, C. L. (1943). *Principles of behaviour*. New York, NY, USA: Appleton-Century-Crofts.
- Klint, K. A., & Weiss, M. R. (1986). Dropping in and dropping out: Participation motives of current and former youth gymnasts. *Canadian Journal of Applied Sport Sciences*, 11(2), 106-114.
- Kozub, F., & Farmer, J. (2011). Free time motivation and physical activity in middle school children. *Physical Educator*, 68(1), 18-29.
- Kravitz, L. (2011). What motivates people to exercise? Reasons and strategies for exercise adherence. *IDEA and Fitness Journal*, 8(1), 25-27.

- Leventhal, H., Prohaska, T. R., & Hirschman, R. S. (1985). Preventive health behaviour across the lifespan. In J. C. Rosen & L. J. Solomon (Eds.), *Prevention in health psychology* (pp. 190-235). Hanover, NH, USA: University Press of New England.
- Lloyd-Jones, D. M., Hong, Y., Labarthe, D., Mozaffarian, D., Appel, L. J., Van Horn, L., & American Heart Association Strategic Planning Task Force and Statistics Committee. (2010). Defining and setting national goals for cardiovascular health promotion and disease reduction: The American Heart Association's strategic impact goal, through 2020 and beyond. *Circulation*, *121*(4), 586-613. doi:10.1161/CIRCULATIONAHA.109.192703
- Locke, E. A., & Latham, G. P. (1984). *A theory of goal setting and task performance*. Englewood Cliffs, NJ, USA: Prentice Hall.
- Markland, D., & Hardy, L. (1997). On the factorial and construct validity of the Intrinsic Motivation Inventory: Conceptual and operational concerns. *Research Quarterly for Exercise and Sport*, *68*(1), 20-32. doi:10.1080/02701367.1997.10608863
- Mathes, S. A., & Battista, R. (1985). College men's and women's motives for participation in physical activity. *Perceptual and Motor Skills*, *61*(3), 719-726. doi:10.2466/pms.1985.61.3.719
- Morris, T., Clayton, H., Power, H., & Han, J. (1995). Activity type differences in participation motives. *Australian Journal of Psychology*, *47*, 101-102.
- Morris, T., Clayton, H., Power, H., & Han, J. (1996). *Participation motivation for different types of physical activity*. Poster presented at the International Pre-Olympic Congress, TX, USA.
- Murphy, S. L., & Eaves, D. L. (2016). Exercising for the pleasure and for the pain of it: The implications of different forms of hedonistic thinking in theories of physical activity behavior. *Frontiers in Psychology*, *7*, Article 843. doi:10.3389/fpsyg.2016.00843
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA, USA: Harvard University Press.
- Rogers, H., Morris, T., & Moore, M. (2008). A qualitative study of the achievement goals of recreational exercise participants. *Qualitative Report*, *13*(4), 706-734.
- Roychowdhury, D. (2012). *Examining reasons for participation in sport and exercise using the Physical Activity and Leisure Motivation Scale (PALMS)* (Doctoral dissertation, Victoria University, Melbourne, Australia). Retrieved from <http://vuir.vu.edu.au/id/eprint/19943>
- Roychowdhury, D. (2018). A comprehensive measure of participation motivation: Examining and validating the Physical Activity and Leisure Motivation Scale. *Journal of Human Sport and Exercise*, *13*(1), 231-247. doi:10.14198/jhse.2018.131.20
- Ryan, R. M., Frederick, C. M., Lepes, D., Rubio, N., & Sheldon, K. M. (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology*, *28*(4), 335-354.
- Sapp, M., & Haubenstricker, J. (1978). *Motivation for joining and reasons for not continuing in youth sports programs in Michigan*. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Conference, Kansas City, MO, USA.

- Seippel, Ø. (2006). The meanings of sport: Fun health, beauty or community? *Sport in Society*, 9(1), 51-70. doi:10.1080/17430430500355790
- Skinner, B. F. (1971). *Beyond freedom and dignity*. New York, NY, USA: Penguin.
- Summers, J. J., Machin, V., & Sargent, G. (1983). Psychosocial factors related to marathon running. *Journal of Sport Psychology*, 5(3), 314-331. doi:10.1123/jsp.5.3.314
- Summers, J. J., Sargent, G. I., Levey, A. J., & Murray, K. D. (1982). Middle-aged, non-elite marathon runners: A profile. *Perceptual and Motor Skills*, 54(3), 963-969. doi:10.2466/pms.1982.54.3.963
- Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Health benefits of physical activity: The evidence. *Canadian Medical Association Journal*, 174(6), 801-809. doi:10.1503/cmaj.051351
- Weinberg, R., Tenenbaum, G., McKenzie, A., Jackson, S., Anshel, M., Grove, B., & Fogarty, G. (2000). Motivation for youth participation in sport and physical activity: Relationships to culture, self-reported activity levels, and gender. *International Journal of Sport Psychology*, 31(3), 321-346.
- Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71(1), 3-25. doi:10.1037/0022-0663.71.1.3
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548-573. doi:10.1037/0033-295X.92.4.548
- Whitehead, J. (1995). Multiple achievement orientations and participants in youth sport: A cultural and developmental perspective. *International Journal of Sport Psychology*, 26(4), 431-452.
- World Health Organization. (2010). *Global Recommendations on Physical Activity for Health*. Retrieved from http://apps.who.int/iris/bitstream/10665/44399/1/9789241599979_eng.pdf

About the Author

Dr **Dev Roychowdhury** is the Founder and Director of DR PSYCHOLOGY, an evidence-based mindful psychology enterprise. He works as a mental health clinician and researcher in Australia and is a Full Member of the Australian Psychological Society (APS). He has also held the position of Deputy Chair and Treasurer of the APS - Australian Capital Territory Branch. He has also served as a commissioned Army Psychology Officer in the Australian Defence Force. Dr Roychowdhury has Doctorate degree in Psychology and has proficient lecturing, research, and professional practice experience. He is regularly invited for talks and workshops in Australia and overseas. His research interests include performance psychology, psychotherapy, motivation, and mindfulness.