Characteristics of Successful Exercisers

Beliefs and Attitudes that Contribute to Success in Pursuit of Health and Fitness Goals

Group 13

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Executive Summary

In the realm of personal training, it is well known that personal trainers play a role in enhancing exercise outcomes (Klain et al., 2014). However, there is a gap in knowledge in motivational drivers behind successful personal training experiences among university students at Canadian universities such as UBC. That is what motivated this project. Partnering with UBC Recreation, this project aims to understand the factors that lead to success in pursuit of health and fitness goals. Following the establishment of a research target and purpose, four constructs were selected to be further investigated: autonomy, competence, relatedness, and intrinsic motivation. These constructs were selected as they have previously been suggested as factors contributing to success when working with a personal trainer (Evensen, 2019). A questionnaire with 5-Point Likert Scale ranging from 'Strongly Disagree' to 'Strongly Agree' was utilized to collect data, which included 4-5 questions on each of the four tested concepts. A survey was distributed, via social media, posters, and personal connections. In total, we received 58 responses that met the inclusion criteria: members of the UBC community who work with a trainer or sport coach and consider themselves successful in pursuit of personal health and fitness goals.

During data analysis, we found that our population of successful exercisers reported high levels of all four tested constructs: competence, autonomy, relatedness, and intrinsic motivation. This aligns with findings of Evensen (2019), who drew connections between these concepts and exercise success within general population personal training clients. While our findings generally align with the findings of Evensen (2019), there were some unique aspects. In particular, relatedness appears to be an extremely strong indicator of success. With a larger percentage of responses indicating High (48.8%) and Very High (34.1%) levels of relatedness than any other

construct (see Appendix A1). This conclusively illustrates that our population of successful exercisers within the UBC community, also note that relatedness between themselves and their coaches and peers is of great importance to them; showing a strong correlation between relatedness and success with personal trainers or coaches.

A second significant finding is that even successful exercisers are concerned about body image. Despite being generally intrinsically motivated, the extrinsic motivation of improving body image is prevalent among successful exercisers (see Appendix A2). This display of extrinsic motivation contrasts the generally intrinsic motivation displayed by participants throughout the rest of the survey (see Appendix A1). This illustrates the prevalence of body image as an extrinsic motivator, even within intrinsically motivated successful exercisers.

Based on these findings we can report some recommendations to UBC recreation. Firstly personal trainers should make an active effort to engage in conversation clients, making the workout experience personalized and social, and build relatedness between client and trainer. To build relatedness between participants and peers, one could consider personal training sessions with two or three clients at once as well. Second, trainers can promote autonomy by allowing the client to have choice over their training regimen. Third, trainers should prioritize client comfort with equipment and form at first to promote competence. And finally, it is important that trainers use caution to avoid comments that promote extrinsic motivation regarding body image. Even complimenting someone's body image puts an emphasis on body image as a priority. Instead, we recommend trainers focus on making workouts fun and enjoyable for the client. This promotes working for the enjoyment of the activity, rather than for an external goal like attaining a certain body image.

Introduction and Literature Review

The University of British Columbia (UBC) with its vast student population of 72, 585 in the 2022-2023 academic year (Averil & Sadiq 2023), stands at the forefront of promoting student health and wellness through fitness activities and facilities, including a personal training program. This initiative is critical as the transition from high school to university often heralds a decline in physical activity, (Fagaras et al. 2015). While the efficacy of personal training in enhancing exercise outcomes is well documented (Klain et al., 2014), a gap exists in the understanding of the foundational factors seen within successful exercisers who work with a personal trainer, particularly university students in Canada, and how those factors are correlated with success. For the purposes of this study, success is defined by a personal sentiment of success - an individual is successful if they consider *themselves* successful in pursuit of personal health and fitness goals. We made this choice as ultimately this is the goal of personal training, for the client to meet their own personal goals. What these goals may be are broad and will vary from client to client, from losing weight, to achieving a certain weight lifting personal record, to improving health and fitness outside the gym. Due to the array of goals a client may have, we have chosen not to consider specific outcomes of personal training sessions in our definition of success, and have left broad - if the client considers themselves successful in pursuit of personal health and fitness goals, regardless of what they may be.

The main goal of this project was to investigate the attitudes and aspects of behaviour that are displayed by individuals who see themselves as successful in their pursuit of their health and fitness goals, in order to inform the UBC personal training program. With this in mind, our research question was as follows: What factors lead to success in pursuit of personal health and fitness goals when working with a personal trainer or coach? This research is particularly

relevant, as UBC is building a new recreation building called Rec North, allowing the personal training program to double in size. This means that with the program growing, more trainers are needed, and it is essential to understand common themes, styles, and ideas shared between clients who see themselves as successful within the program so that when the program grows, it can continue to be effective.

Following the establishment of a research target and purpose, four constructs were selected to be investigated as possible indicators of success: autonomy, competence, relatedness, and intrinsic motivation. These constructs were selected as they have previously been suggested as factors contributing to success when working with a personal trainer (Evensen, 2019).

Three of those constructs, autonomy, competence, and relatedness, are considered to be three basic psychological needs within Self-Determination Theory (SDT), a foundational theory for our research ideology. Self-Determination Theory examines how the individual's experience of these three aforementioned constructs are affected by "social-contextual factors" and follows the application of these highly individualized experiences to different domains of life. It is the fulfillment of these factors that is considered to have a significant impact on creating a successful outcome for an individual (Ryan & Deci, 2017). Given the well-established relationship between self-determination and success and fulfillment in fitness and recreation context (Edmunds et al., 2007; Hein & Hagger, 2007; Keshtidar & Behzadnia, 2017), we felt as though Self-Determination theory is an ideal theoretical basis to lay the groundwork for our research and literature review.

Given the foundational role that these constructs play in our research as well as SDT, we feel it is essential to clearly define these terms. Autonomy is seen as a sense of voluntariness, where one's behaviours are self-endorsed and driven by self-regulation (Ryan & Deci, 2017).

Competence can be simply understood as our basic need that one feels for mastery and efficacy within a task (Ryan & Deci, 2017). Relatedness is when someone feels socially connected, this means feeling cared for by others as well as being a part of a social organization and contributing to others (Ryan & Deci, 2017). Within SDT, there is a mini-theory called Cognitive Evaluation Theory (CET), and the main concept within this theory is intrinsic motivation, defined as the motivation and inherent desire from within to succeed and thrive (Ryan & Deci, 2017). Intrinsic motivation's importance is outlined within this theory and context by Ryan and Deci (2017) who note that intrinsic motivation and the internal desire for success can be helped or hindered by certain social contexts. One of those key environments where social context can influence intrinsic motivation is within gyms, where participants may become disengaged and externally driven. This emphasizes the importance of investigating intrinsic motivation to our research question.

The inherent significance of autonomy, competence, relatedness and intrinsic motivation in our research is furthered by the findings of Evensen (2019) and Klain et al., (2014). Klain et al., (2014) found that participants who exercised with a personal trainer had much lower ego-centered (extrinsic) motivation scores and much higher task-centered (intrinsic) motivation scores than those who exercised independently, and as a result, personal training clients saw more positive outcomes in their workouts. This emphasizes the important role a personal trainer has in enhancing intrinsic motivation in a client, and the consequent impact on client success. This finding is particularly significant to the present research when considered in conjunction with the findings of Evensen (2019). Evensen (2019) found that coaching styles of personal trainers that emphasize autonomy support, competence support, and involvement support (analogous to relatedness) can significantly enhance intrinsic motivation, and lead to success

within the personal training context. In conjunction, these findings assert the importance of autonomy, competence, relatedness and intrinsic motivation towards success when working with a personal trainer. Personal trainers have an immense potential to enhance client intrinsic motivation, and consequently success (Klain et al., 2014), and autonomy, competence and relatedness are not only indicators of success themselves, but significant contributors to promoting intrinsic motivation (Evenson, 2019).

To bring these concepts together, not only do the four identified concepts lead to organismic growth in the realm of SDT, but also it is noted that in order to achieve intrinsic motivation within a person and context, one requires both autonomy and competence (Ryan & Deci, 2017). This shows not only the importance of these concepts within SDT and behaviour change, but also the inherent connection these constructs have with one another.

The literature suggests that implementing strategies that foster autonomy, competence, relatedness, and intrinsic motivation could significantly enhance the effectiveness of personal training programs. Due to the extensive evidence suggesting these four constructs as indicators of success in personal training for the general population, these are the constructs we have chosen to test within members of the UBC community. In this study, members of the university community are defined as anyone who works, studies, lives, or trains on the UBC Vancouver campus.

Involving Canadian university students and university community members who are successful within the realm of health and fitness, and testing autonomy, competence, relatedness and intrinsic motivation can provide insight into what aspects of their attitudes and beliefs contribute towards their success. This directly addresses the research question of the present study; “What factors lead to success in pursuit of personal health and fitness goals when working

with a personal trainer or coach?". Answering this question can inform how these attitudes can be targeted by personal trainers in the future to allow for continued success within the chosen community. Ultimately addressing the goal of the research: to inform UBC Recreation and the UBC personal training program with information on the factors associated with success within exercisers in the UBC community. The findings of this research are incredibly important, as personal trainers can apply these findings to inform future personal training sessions. This will be particularly beneficial to new clients, as well as present clients struggling to attain their goals, as a trainer's understanding of the beliefs and attitudes that lead to success drastically improves the outlook on attaining success in the future for their clients.

Methodology

A survey was designed in order to identify members of our target population and provide insight into the correlation between client's perceived personal success in health and fitness goals, and autonomy, competence, relatedness, and intrinsic motivation, as informed by the literature review to be determinants of success in general personal training settings (Evenson, 2019; Klain et al., 2014). The target population was successful members of the UBC community currently working with a coach or personal trainer who consider themselves successful in pursuit of personal health and fitness goals. The survey consisted of four parts: A consent form (see Appendix E1), assessment of demographic information/inclusion criteria, assessment of autonomy, competence, relatedness, and intrinsic motivation, and an optional section for contact information to enter into a giveaway as an incentive for participation in the study. The first part of our survey was a consent form (see Appendix E). The consent form ensures that we, as researchers, received informed consent from study participants that partook in our research, and that participants were aware of and understood the purpose of the research, the principal

investigator, any potential risks and benefits, and that any data collected will be anonymous and personal information kept completely confidential.

The next portion of our survey is inclusion criteria, and demographic information of participants. This is aimed at determining the demographics of the study participants, and if the individual taking the survey meets the criteria for inclusion in our research. The inclusion criteria was namely that participants were members of the UBC community, are currently working with a sport coach or personal trainer, and that participants consider themselves successful in pursuit of personal health and fitness goals. Anyone who takes the survey and fails to meet inclusion criteria will be thanked for participating and not be permitted to continue on to the rest of the survey. This will be assessed through a single, closed question which reads "Do you feel you have achieved personal successes in the pursuit of your own health and fitness goals". This phrasing was deliberately chosen, and taken directly from the research purpose as outlined by UBC Recreation, in order to best measure and fulfill the intended research purpose. Additionally, in this portion of the survey, basic demographic information will be collected. This allows us to understand the age and gender demographics, so that we as researchers garner a greater understanding as to the demographic(s) our findings are applicable to.

The bulk of the questions in the survey were aimed at assessing autonomy, competence, relatedness, and intrinsic motivation. These factors were assessed through an array of questions for each individual factor. The questions were closed questions structured in the form of "To what extent do you agree with the following statement", which the participants will then respond on a 5-point Likert-Scale ranging from "Strongly Disagree" to "Strongly Agree". For example, to test autonomy, we used the question, "To what extent do you agree with the following statement: 'I have control in shaping my own training regimen and goals with my trainer?" For

the full list of survey questions, see Appendix B. As previously explored, we have chosen specifically to examine autonomy, competence, relatedness, and intrinsic motivation as these factors were the strongest determinants of success in personal training identified in the literature review (Evenson, 2019; Klain et al., 2014). We have decided to limit our research to these four factors in order to keep the survey to a manageable length, as longer surveys produce lower quality and less thoughtful responses, and a greater dropout rate (Revilla et al., 2017).

The final part of the survey will be optional, and it will prompt the participant for an option to provide contact information to enter into a draw to win UBC merchandise and/or Lululemon apparel. This is crucial for our research, as we are trying to reach a relatively small population and with highly specific inclusion criteria, so maximizing engagement is key.

Our survey was distributed and accessed through a poster containing a QR code linked to the Qualtrics Survey (see Appendix C1). This poster was distributed in a number of ways. It was hung at various UBC Recreation facilities, such as the Activities and Recreation Center (ARC), and the Student Recreation Center (SRC, commonly known as the 'BirdCoop'). These locations were deliberately chosen, as the ARC and the SRC are where UBC Recreation personal training services are offered, so we felt as though it was the most probable location to encounter our target population. Additionally, the poster was distributed through the personal social media accounts of the researchers.

Following the completion of data collection, data analysis began. The first step of data analysis was to collect the cumulative response totals for each of the tested constructs of autonomy, competence, relatedness and intrinsic motivation. This was done by separating the questions into four construct categories, one for each construct, then taking the sum of the responses for each response category (i.e. Strongly Agree) across all questions for one particular

construct category (i.e. all of the questions assessing autonomy). Once the total number of responses for each response category within each construct grouping have been collected, the percentage of each response within each construct category was calculated. This was done by taking the number of responses for a given response within a construct category and dividing it by the total number of responses within that construct category. These percentages were then compared across construct categories in order to provide insight as to which of the constructs were most frequently indicated by survey participants. Finally, the response distribution within each individual question will be compared to the cumulative response distribution for its' respective construct category to identify any outliers, or questions whose responses contradict general findings.

Results

We found that of our 49 participants, 9 responses were currently with a UBC personal trainer, 22 were working with a non-UBC personal trainer, 14 were working with a sports-specific personal coach, and 5 did not work with a personal trainer or coach. The 5 participants who did not work with a personal trainer and coach were directed away from the survey and their data was discarded, leaving 44 participants who met the inclusion criteria who were permitted to complete the remainder of the survey. In regards to how long those who met the inclusion criteria had been working with a personal trainer, 14% have been working with a coach or personal trainer for less than 6 months, 26%, for 6 months to 1 year, another 26% for 1-3 years, 19% for 3-5 years, and 16% have been working with their coach or personal trainer for 5 years or more. Of the responses, 41 respondents marked that they felt successful in the pursuit of their health and fitness goals, 4 indicated that they were on the way to achieving their goals, and the

remaining 4 responses that indicated they had not met these goals were discarded from the survey.

As for our study demographic, we found that the largest age population represented individuals ages 19-25 at 73%, followed by 26-35 years at 11%, 51-65 years at 9%, 18 years or younger at 4%, 36-50 at 2% and finally we had 0 respondents 65 or older. As for gender identity, there was a majority of male identifying individuals, with 32 respondents identifying as male, as well as 12 respondents identifying as female, and 1 respondent identifying as non-binary. For the complete breakdown of the demographic of study participants, see Appendix D.

Participants reported varying levels of agreement to statements intended to measure each of our four constructs, though trends did emerge. Note for the following results, “Strongly Agree” correlates with high levels of the construct, and “Strongly Disagree” correlates with low levels. Of the 208 responses on autonomy support-oriented questions, 15.9% chose either “Disagree” or “Strongly Disagree”; 13.5% of answers were neutral, and 70.6% chose either “Agree” or “Strongly Agree”. 203 responses to competence-oriented questions were recorded, with 22.2% choosing either “Disagree” or “Strongly Disagree”; 25.6% answering neutrally, and 52.2% either Agreeing or Strongly Agreeing. Of the 205 responses to relatedness-oriented questions, 4.4% participants chose “Disagree”, with 0% choosing “Strongly Disagree”, 12.7% responding neutrally, and a whopping 82.9% answering either “Agree” or “Strongly Agree”. Finally, questions were also implemented with the intention to measure individual levels of intrinsic and extrinsic motivation. With this type of question, responses on the Agree to Strongly Agree side indicated a propensity towards intrinsic motivation, while responses of Disagree to Strongly Disagree indicate a propensity towards extrinsic motivation. Of 203 responses to motivation-oriented questions, 21.2% reported Strongly Disagree or Disagree, thus indicating

extrinsic motivation; 12.8% answered neutrally, and 66% either Agreed or Strongly Agreed, thus indicating intrinsic motivation. For a complete summary table for all four construct categories, see Appendix D2.

Despite the aforementioned overwhelming propensity towards intrinsic motivation in the 203 responses to the motivation-type questions, there was one outlier question in which the responses indicated a tendency towards extrinsic factors affecting motivation. This question, phrased "To what extent do you agree with the following statement: I work out to attain a certain body image" garnered 51.2% of responses in the Agree category, while only 22% of respondents Disagreed with the statement. This suggests extrinsic motivation. This is inconsistent with the general finding that 66% of responses indicated an inclination towards intrinsic motivation, and opens the door to further examination in the following section regarding the interplay between varying factors influencing one's experience of motivation (see Appendix D2).

Discussion

Our research provided valuable insight regarding what beliefs and attitudes are found in members of the UBC community who consider themselves successful in pursuit of health and fitness goals. We found that all four tested constructs, autonomy, competence, relatedness and intrinsic motivation were strong indicators of success. The vast majority of responses from those who met the inclusion criteria indicated high levels of all four of these constructs (see Appendix A1). This is significant as in order to meet the inclusion criteria, participants had to consider themselves successful in pursuit of personal health and fitness goals. This indicates that autonomy, competence, relatedness, and intrinsic motivation are attitudes and beliefs commonly present in successful exercisers within a university context. This finding does align with existing literature that autonomy, competence, relatedness and intrinsic motivation are indicators of

success in a personal training setting within the general population (Evensen, 2019; Klain et al., 2014). However, the significance of this finding is, to the best of our knowledge it addresses the gap in the literature and extends this finding specifically to Canadian University students. This extension is meaningful as it provides valuable insight to our partner in this research, UBC recreation, who was looking to understand the beliefs and attitudes commonly held by successful exercisers, so they could apply the findings to their personal training program. The vast majority of UBC Recreation personal training clients are members of the university community, making the findings of the present study extremely relevant and informative to our partner. Finally, this finding directly addresses the research question, "What factors lead to success in pursuit of personal health and fitness goals when working with a personal trainer or coach?", as it identifies four factors (autonomy, competence, relatedness and intrinsic motivation) that appear to be strong indicators of success, due to their high prevalence in individuals working with a coach or personal trainer who consider themselves successful in pursuit of health and fitness goals.

A second key finding of our research was that of the four tested constructs, relatedness appears to be particularly significant in promoting success in a personal training context within the UBC community. Of the four tested constructs, relatedness had the highest proportion of "Agree " (48.8%) and "Strongly Agree" (34.1%) responses, indicating high and very high levels of the construct respectively (see Appendix D2). This was a novel finding that we did not encounter within our literature, making it of particular interest to us. While several sources indicated relatedness as an important indicator of success when working with a coach or personal trainer (Evensen, 2019; Klain et al., 2014), the finding that relatedness is of particular importance for members of a university community is a novel finding. One potential explanation for this finding is that perhaps, given the social nature of a university environment, the social factor of

relatedness may be particularly valuable to that community. This finding could also be explained by the age demographic that made up the majority of our participants. 72.6% of our participants were aged 19-25 (see Appendix D1). This could explain the importance of a social connection and sense of relatedness when personal training, as it has been suggested in the literature that young adults value a social environment when exercising (Calgar et al., 2009). This finding is significant as it can directly inform UBC recreation as to which constructs are worth specific emphasis during personal training sessions. This is reflected in our recommendations to UBC recreation. Additionally, this finding provides a unique insight and extension to our research question, as not only does it identify a factor that leads to success when working with a personal trainer, but it identifies a factor that is of particular importance, more so than other identified indicators of success.

As discussed in the results section, another key finding was that there was an outlier question where respondents indicated a desire to attain an extrinsic factor, a certain body image. This is contrary to the general finding that just 21% of respondents reported were extrinsically motivated. 66% of respondents indicated attaining a certain body image is a reason they go to the gym. This desire for an ideal body image is expected, as, despite the prevalence of body positivity discourses in recent times, in Western cultures having a slim and muscular body indicates youthfulness, attractiveness, and social elevation (Gorgan et al. 2022). This is still a significant finding, because our literature review has shown that having strong intrinsic motivation is correlated with successful fitness experiences, and having high extrinsic motivation has negative effects in the pursuit of personal health and fitness goals (Evenson, 2019), yet in the university community, even successful exercisers, while generally motivated intrinsically, are extrinsically motivated by body image. However, some researchers such as Klain et al (2014)

indicate that while having little to no extrinsic motivation is ideal, as long as the exerciser has strong intrinsic motivations, having some intrinsic motivation is fine. This is valuable for UBC Recreation to know. Even among clients that consider themselves to be successful and highly intrinsically motivated, extrinsic motivating factors such as body image are still prevalent. And, while having some extrinsic motivation is not detrimental to the pursuit of personal health and fitness goals, personal trainers can still work to divert clients away from these perceptions about body image and toward a more positive intrinsic motivated mindset. This is explored further in the recommendations section.

Throughout the research process we encountered a number of challenges and hurdles that we needed to work through. One hurdle we encountered very early on was that we had difficulty regarding how to define success, as nearly every piece of literature we encountered on the topic of the factors that contribute to success defined success differently. Some sources defined success quantitatively as going to the gym a certain amount of times a week (Marin et al., 2018), others by improving by a certain margin in a certain fitness measure, such as a resistance training score (Kathrins and Turbow, 2010). This lack of consistency within the literature made it difficult to synthesize data. To address this we defined success broadly, and let the participant define success for themselves; if the participant felt as though they were successful in pursuit of their own personal health and fitness goals, for the purposes of this research, they were successful. Not only did this simplify and broaden the relevant literature to our research, but it aligned particularly well with the motivation for UBC Recreation, and they were interested in exactly this, individuals who are successful in pursuit of personal health and fitness goals.

A second challenge we encountered in our research was the highly specific inclusion criteria, and consequently limited number of participants. Initially, it was our intention to only

collect data on individuals who have a) experienced success in pursuit of personal health and fitness goals, and b) are currently or have previously worked with the UBC personal training program. This was extremely limiting, as the UBC personal training program consists of only 40 clients at a time, leaving an incredibly small target population. We addressed this challenge by expanding our target population to include members of the UBC community who are working with a coach or personal trainer not associated with UBC. This greatly expanded our target population, as including members of the university community working with coaches and personal trainers not associated with UBC includes any UBC students or staff that are a member of a sports team, or attend a gym away from UBC and work with a personal trainer there. This allowed us to elicit significantly more survey responses, as several of us are personal trainers and varsity team members ourselves, so we could distribute the survey to those that we know from the contexts who meet our new inclusion criteria and collect responses that way. However, even with this expansion of inclusion criteria, we still managed fewer than 50 participants that met the inclusion criteria, which is a relatively small sample size. This limits the validity of our study, as a small sample size increases the chance of a bias being present in our population, and decreases applicability to a larger population. Future research on a similar topic, with a larger sample size, is important to reaffirm the findings of this research.

Recommendations to UBC Recreation

Based on our findings, we have come up with four recommendations for our project partner UBC Recreation. Our findings show a strong correlation with the presence of autonomy, competence, relatedness, and intrinsic motivation to people that identify themselves as successful. Therefore, our recommendations aim to emphasize the importance of personal trainers fostering autonomy, competence, relatedness, and intrinsic motivation with their clients.

Giving their clients more freedom and self-governance in their fitness process is an immediately actionable recommendation to UBC Recreation. Allowing clients to have more control over their program will develop a strong sense of autonomy (Everson, 2019), and can allow for clients to gain the knowledge and skills to become independent in their fitness journey should they be unable to work with a personal trainer in the future. Personal trainers can build this autonomy by asking for input about their client's program by seeing if they want to go up in weight that week, pick the next exercise, or try a new lift.

Another recommendation for UBC Recreation is to re-emphasize the importance of building confidence and competence in their clients, especially in the first few sessions with a new client. An easy way to build competence in clients is by prioritizing client comfort and familiarity with equipment and proper form before moving on to more complex workouts. This will allow the client to focus on mastery of movements, making them feel capable and confident (Everson, 2019). Another way to build competence is to provide appropriate challenges where the client is pushed enough to where they feel a sense of accomplishment when overcoming it but not hard enough to where they feel defeated or burnt out afterward (Everson, 2019). Finding this balance will not be easy for every client, but striving to find this point of challenge should be a goal for UBC recreation.

Relatedness had the highest scores among people who identified themselves as successful, so we greatly stress the importance of considering implementing the following recommendation. We urge UBC Recreation personal trainers to place a greater emphasis on fostering stronger social connections between themselves and the client, as well as the client and other people they exercise with. Personal trainers should make an active effort to engage in conversation with their clients, make their workout experience more personalized and social, and

build a genuine connection with their clients. Introducing clients to other clients and staff are also good ways to create a social environment where relatedness can thrive. UBC Recreation should consider creating more opportunities for clients to work out with one another to encourage social bonding and connection. UBC Recreation does already provide some group fitness sessions with personal trainers, so perhaps personal trainers can advertise these opportunities more to their clients and encourage them to exercise with others.

Promoting intrinsic motivation is our final recommendation for UBC Recreation. Developing intrinsic motivation is not easy, and many clients might be arriving with extrinsic motivations already ingrained in them, as we recognize that several individuals initially go to the gym as a result of extrinsic motivators, such as losing weight, or putting on muscle. This extrinsic motivation is often highly persistent, evidenced in the outlier finding in our research that attaining a certain body image was found to be important even among people who are successful exercisers, however, aside from this one specific motivator, our study found that successful exercisers were intrinsically motivated, and we interpreted this finding as an extrinsic factor that has persisted. While having some amount of extrinsic motivation does not necessarily mean the client will be unsuccessful (Klain et al., 2014), it is still valuable for personal trainers to avoid focusing on extrinsic motivations such as body weight and body image. Even complimenting someone's body in a positive way could put more emphasis on the extrinsic factor of body image as a priority. Instead, personal trainers should focus on creating intrinsic and process focused goals for clients, such as mastering a certain exercise movement, or exercising to improve vitality and overall well being, or simply exercising because they enjoy it. Personal trainers should do their best to avoid promoting extrinsic or outcome focused goals,

such as being a certain body weight or looking a certain way, to enhance the intrinsic motivation of their clients.

Based on the literature and our survey data, we recommend that UBC Recreation re-emphasizes the importance of their personal trainers promoting autonomy, competence, relatedness, and intrinsic motivation in their clients. We are sure that the personal trainers at UBC Recreation already have some strategies in place to foster similar constructs in their clients so that they can be as successful as possible. However, we simply want to build on what is already established within the personal training community and point to the significance of growing the specific constructs of autonomy, competence, relatedness, and intrinsic motivation among their current and new clients.

Conclusion

During this study our objective was to deeply understand the motivational factors that drive successful personal training experiences among university students. Our research explored the relevance and impact of four psychological constructs within Self-Determination Theory - competence, autonomy, relatedness and intrinsic motivation - as they pertain to achieving personal health and fitness goals.

The findings of our study showed that all four constructs significantly contribute to the success of individuals engaged in personal training at the University of British Columbia. Notably, relatedness emerged as the most potent predictor of success. This suggests that the connections clients establish with their trainers and peers not only enhances their training experience but are essential to how they see themselves as successful. These aspects of our findings highlight the social nature of exercise and the importance of creating a community oriented approach within fitness programs. Creating a supportive and engaging social

environment can substantially influence the levels of motivation in clients and their subsequent success in the future of their fitness goals.

Our research also brought to light the complex interplay between intrinsic and extrinsic motivation. While intrinsic motivation- such as personal satisfaction derived from exercise was prevalent among successful exerciser's, extrinsic motivation, particular as it relates to body image was also seen to be influential. This dual presence of motivators indicates that personal trainers need to be aware of and sensitive to external pressures their clients may face, which could undermine the intrinsic rewards of fitness activities. Therefore, trainers should aim to reinforce intrinsic motivations while addressing and mitigating the impacts of extrinsic pressures such as our self perceptions of our bodies and societal beauty standards.

Our study also reinforced the theoretical underpinnings of self-determination theory in a practical setting, demonstrating how autonomy, competence and relatedness are not just academic concepts but are directly applicable to real world scenarios. The studies findings affirm that the strategies fostering these three needs can significantly enhance the effectiveness of personal training programs by aligning with the clients psychological needs and motivations.

Additionally, the research has a significant implication for the future of personal training programs at UBC. The insights gained can guide the development of training programs that are more personalized, psychologically supportive and ultimately more successful. Personal trainers can take our recommendations to refine their approach by focusing on developing competency, autonomy, intrinsic motivation and relatedness.

All in all, this study not only clarifies the role of key psychology constructs in the success of personal training but also provides a clear blueprint for enhancing client engagement and satisfaction. This study sets a clear benchmark for university-based fitness programs and will

prove to be invaluable as UBC's personal training program expands as it emphasizes the holistic integration of physical and psychological elements to foster genuine, sustainable engagement in fitness activities.

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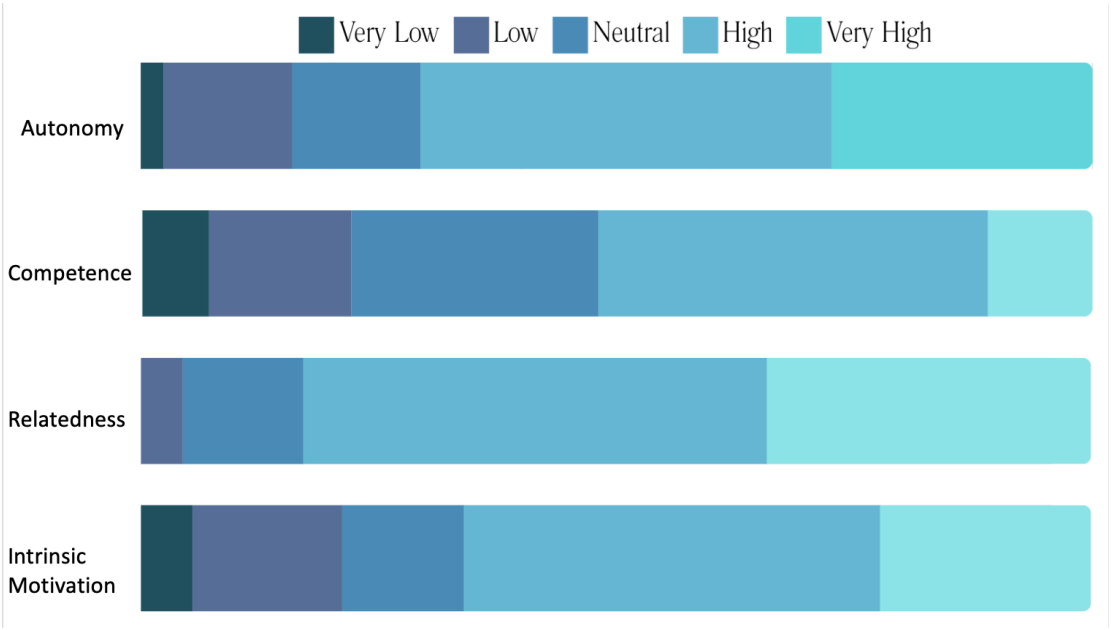
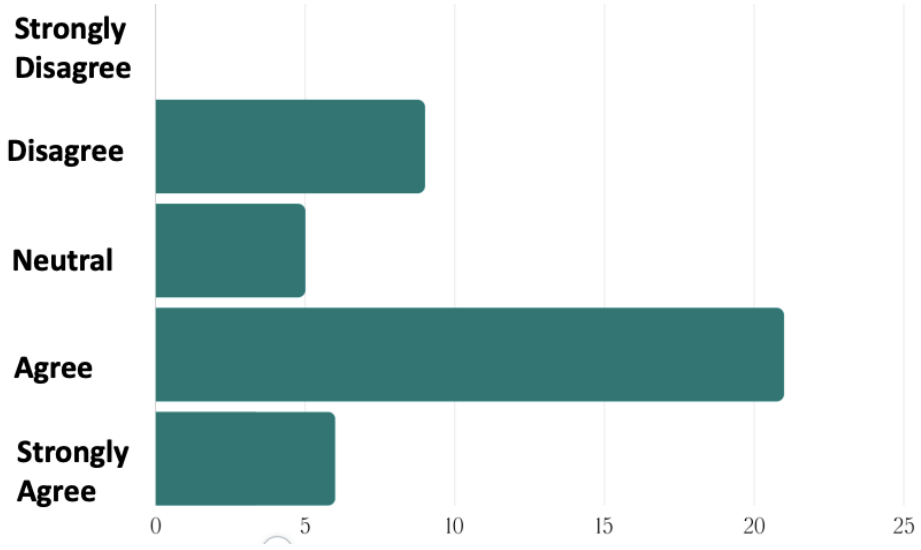
Appendix A

Appendix A1: Distribution of responses for each of the four tested constructs, shown in percentage of responses within a given category.



Appendix A2: Response Distribution to Question 23: "To what extent do you agree with the following statement: 'I work out to attain a certain body image'"



Appendix B

Appendix B1: Survey Questions

Start of Block: Block 1

The following questions are aimed to understand your experience as a client of a personal trainer or coach

The questions will ask you to rank each statement from 1-5 based on how strongly you agree or disagree with them. With 1 being "Strongly Disagree" and 5 being "Strongly Agree"

Please answer honestly and openly, these questions are anonymous and aimed to help the personal training program in the future.

End of Block: Block 1

Start of Block: Block 2

Are you currently working with a personal trainer or coach?

- ○ Yes - I work with a personal trainer at UBC (1)
- ○ Yes - I work with a personal trainer outside of UBC (2)
- ○ Yes - I work with a sport coach when training (4)
- ○ No- I do not work with a coach or trainer (6)

End of Block: Block 2

Start of Block: Block 3

Display This Question:

If Are you currently working with a personal trainer or coach? = No- I do not work with a coach or trainer

Thank you for your interest. This survey is only for individuals who are working with a personal trainer or coach.

How long have you been working with a coach or personal trainer?

- Less than 6 months (1)
- 6 months - 1 year (2)
- 1-3 years (3)
- 3-5 years (4)
- 5 years or more (5)

End of Block: Block 3

Start of Block: Block 4

Page Break

Question 2 Do you feel that you have achieved personal successes in the pursuit of your own health and fitness goals

- No (1)
- Unsure / Not Yet (2)
- Yes (3)

Page Break

The following 2 questions aim to understand some simple demographic information

Page Break

Which age demographic do you fall within

- ○ <18 (1)
- ○ 19-25 (2)
- ○ 26-35 (3)
- ○ 36-50 (4)
- ○ 51-65 (5)
- ○ >65 (6)

What is your gender identitiy?

- ○ Man (1)
- ○ Woman (2)
- ○ Would Rather Not Say (3)
- ○ Non-Binary (4)

End of Block: Block 4

Start of Block: Block 5

To what extent do you agree with the following statement: I follow some else's fitness program exactly and will not alter it

- ○ Strongly Disagree (1)
- ○ Disagree (2)
- ○ Neutral (3)
- ○ Agree (4)
- ○ Strongly Agree (5)

To what extent do you agree with the following statement: I feel that I have control in shaping my own training regiment and strategies for reaching my goals

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I appreciate the feedback from my coach, peers, or trainer

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I create my own workouts (or have input to my trainer or coach) based on my personal ideas and opinions

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

Page Break

To what extent do you agree with the following statement: When I make a mistake when training, I should be punished by myself or others (ie. train harder, feel disappointed/upset, negative thoughts or talk)

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I find reward in the process of trying physical activity, not the end result.

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: Outperforming others is what drives me to exercise more

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I focus on the process, not the outcome

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

Page Break

To what extent do you agree with the following statement: I feel as though I have developed meaningful relationships with peers I exercise with

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I feel as though I have developed meaningful relationships with my coach

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I take into account how I am feeling mentally and adjust my workout accordingly

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I take into account how I am feeling physically and adjust my workout accordingly

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I find joy in the simple act of performing exercise

- Strongly Disagre (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I often have enjoyable conversations with people that exercise with/around me

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

Page Break

To what extent do you agree with the following statement: I work out to attain a certain body image

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I work out to improve my health

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I work out to improve my mood or wellbeing

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I compare myself to others based on physical appearance

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I compare myself to others based on workout performance

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

To what extent do you agree with the following statement: I show genuine interest in the wellbeing of those I workout with or around

- Strongly Disagree (1)
- Disagree (2)
- Neutral (3)
- Agree (4)
- Strongly Agree (5)

Appendix C

Appendix C1: Promotional Poster

Appendix D

Appendix D1: Inclusion Criteria Results and Demographic Data

Are you currently working with a personal trainer or coach?	Number of responses
Yes - I work with a personal trainer at UBC	8 (16.3%)
Yes - I work with a personal trainer outside of UBC	22 (44.9%)
Yes - I work with a sport coach when training	14 (28.5%)
No - I do not work with a coach or personal trainer	5 (10.2%)

How long have you been working with a coach or personal trainer?	Number of responses
Less than 6 Months	7 (14.2%)
6 Months to 1 Year	13 (26.4%)

1-3 Years	13 (26.4%)
3-5 Years	9 (18.6%)
5 or more Years	8 (16.3%)

Do you feel that you have achieved personal successes in the pursuit of your own health and fitness goals?	Number of responses
Yes	41 (83.7%)
Unsure / Not yet	4 (8.2%)
No	4 (8.2%)

Which age demographic do you fall within?	Number of responses
<18	2 (4.4%)
19-25	31 (72.6%)

26-35	5 (11.4%)
36-50	1 (2.3%)
51-65	4 (9.3%)
>65	0 (0%)

What is your gender identity?	Number of responses
Male	31 (72.1%)
Female	11 (25.5%)
Would Rather Not Say	0 (0%)
Non-Binary	1 (2.3%)

Appendix D2: Summarized Data Broken into Construct Categories

AUTONOMY SUPPORT (Strongly agree = high autonomy)	
Responses = 208	

Strongly Disagree = 3, 1, 0, 1, 0 (5) Disagree = 18, 2, 0, 6, 2 (28) Neutral = 10, 6, 3, 7, 2 (28) Agree = 9, 23, 18, 18, 22 (90) Strongly Agree = 2, 9, 20, 11, 15 (57)	Strongly Disagree = 2.4% Disagree = 13.5% Neutral = 13.5% Agree = 43.2% Strongly Agree = 27.4%
COMPETENCE (Strongly agree = high competence)	
Responses = 203 Strongly Disagree = 0, 0, 0, 6, 8 (14) Disagree = 4, 1, 4, 4, 18 (31) Neutral = 6, 7, 13, 19, 7 (52) Agree = 17, 28, 20, 11, 7 (83) Strongly Agree = 13, 4, 4, 1, 1 (23)	 Strongly Disagree = 6.9% Disagree = 15.3% Neutral = 25.6% Agree = 40.9% Strongly Agree = 11.3%
RELATEDNESS (Strongly agree = high Relatedness)	
Responses= 205 Strongly Disagree = 0, 0, 0, 0, 0 Disagree = 6, 2, 0, 0, 1 (9) Neutral = 8, 3, 7, 4, 4 (26) Agree = 23, 17, 17, 19, 24 (100) Strongly Agree = 4, 19, 17, 18, 12 (70)	 Strongly Disagree = 0% Disagree = 4.4% Neutral = 12.7% Agree = 48.8% Strongly Agree = 34.1%

INTRINSIC VS EXTRINSIC (Strongly AGREE = INTRINSIC)	
Responses= 203 Strongly Disagree = 5, 0, 6, 0, 0 (11) Disagree = 11, 0, 21, 0, 1 (32) Neutral = 11, 2, 5, 2, 6 (26) Agree = 11, 27, 9, 20, 22 (89) Strongly Agree = 2, 12, 0, 19, 12 (45)	 Strongly Disagree = 5.4% Disagree = 15.8% Neutral = 12.8% Agree = 43.8% Strongly Agree = 22.2%

Appendix D3: Response Distribution of the Body Image Question, Compared to the Cumulative Data for the Intrinsic Motivation Construct Category

To what extent do you agree with the following statement: I work out to attain a certain body image*	Number of responses
Strongly Disagree	0 (0%)
Disagree	9 (22.0%)
Neutral	5 (12.2%)
Agree	21 (51.2%)

Strongly Agree	6 (14.6%)

* For this, results are flipped, so the response “Strongly Disagree” indicates very high levels of intrinsic motivation, and will be represented as “Strongly Agree on the Intrinsic vs Extrinsic Motivation Summary Table. Conversely, “Strongly Agree” indicates very high levels of extrinsic motivation, and will be represented as “Strongly Disgree on the Intrinsic vs Extrinsic Motivation Summary Table.

INTRINSIC VS EXTRINSIC (Strongly AGREE = INTRINSIC)	
Responses= 203	
Strongly Disagree = 5, 0, 6, 0, 0 (11)	Strongly Disagree = 5.4%
Disagree = 11, 0, 21, 0, 1 (32)	Disagree = 15.8%
Neutral = 11, 2, 5, 2, 6 (26)	Neutral = 12.8%
Agree = 11, 27, 9, 20, 22 (89)	Agree = 43.8%
Strongly Agree = 2, 12, 0, 19, 12 (45)	Strongly Agree = 22.2%

Appendix E

Appendix E1: Consent Form

CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)
Participant Consent Form: Factors that Foster Success for UBC Students when Working with a Personal Trainer - Group 13
Project ID: H17-03560-A017
Principal Investigator: Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)

The purpose of the class project: The purpose is to examine what leads to client success in pursuit of health and fitness goals when working with a personal trainer.

Study Procedures: With your permission, we are asking you to participate in a survey. You may only complete each survey once. With the information gathered, students will critically examine how different individuals understand or engage in health promoting activities or health promotion initiatives.

Project outcomes: The information gathered will be part of a written report for the class project. The written report will be shared with campus partners involved with the project. Summaries of findings will also be posted on the following websites. UBC SEEDS Program Library: https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library No personal information/information that could identify participants will be included in these reports or shared with campus partners.

Potential benefits of class project: There are no explicit benefits to you by taking part in this class project. However, the survey will provide you with the opportunity to voice your opinion on your experiences with health promoting activities or initiatives in a broad sense and will provide the students with an opportunity to learn from your experiences. Confidentiality: Maintaining the confidentiality of the participants involved in the research is paramount, and no names of participants will be linked to the data collected. At the completion of the course, all data (i.e. notes) and signed consent forms will be stored on a secure electronic drive by Dr. Bundon. All data and consent forms will be destroyed 1 year after completion of the course.

Risks: The risks associated with participating in this research are minimal. There are no known physical, economic, or social risks associated with participation in this study. You should know that your participation is completely voluntary and you are free to withdraw from the study and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study: If you have any questions about this class project, you can contact Andrea Bundon by email at andrea.bundon@ubc.ca

Research ethics complaints: If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or e-mail RSIL@ors.ubc.ca . or call toll free 1-877-822-8598.

Consent: Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time.
By proceeding with this survey, I am confirming I have read the above information and agree to participate in this research project.