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# Associations between economic preferences and behavioural health intentions among young adults living in an informal settlement

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# ASSOCIATIONS BETWEEN ECONOMIC PREFERENCES AND BEHAVIOURAL HEALTH INTENTIONS AMONG YOUNG ADULTS LIVING IN AN INFORMAL SETTLEMENT

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## ABSTRACT

**Background:**
The emergence of non-communicable diseases in South Africa, most notably among the urban poor, is resulting in an increased burden of diseases. Since NCDs can develop in distinct periods of the life course, post-adolescence-intentions to engage in health behaviours need to be investigated. Furthermore, there is consistent evidence that health behaviours are associated with economic preferences. Yet, it is unclear whether economic preferences are also associated with behavioural health intentions.

**Objectives:**
The study aims to examine how risk-taking and patience are associated with behavioural health intentions among young adults in a poor informal urban settlement in South Africa. The study also explores whether there are gender differences in behavioural health intentions and whether these economic preferences contribute to gender gaps in behavioural health intentions.

**Data and Methods:**
The study utilized secondary survey data collected from a sample of 240 young adults using a structured questionnaire. The study collected data on behavioural intentions for seven health-protective and health-harming behaviours. Risk-taking and patience are measured using qualitative, quantitative and combined measures from the Global Preference Survey. Ordered probit and seemingly unrelated regression models were estimated and t-tests were employed to quantify gender gaps, followed by the Blinder-Oaxaca decomposition analysis.

**Findings**
The study reveals that economic preferences have a moderate association with behavioural health intentions among young adults. However, these results seem contradictory to priori expectations and further research is required. Our findings emphasize the importance of recognizing and addressing the limitations associated with imperfect measures of economic preferences when investigating their association with health behavioural intentions.



*Keywords:* Theory of Planned Behaviour, Behavioural health intentions, Economic Preferences, Young Adults, Decomposition Analysis, South Africa

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## 1. INTRODUCTION

One may make the case that having excellent health is necessary for improved developmental outcomes, both on an individual, and a societal scale. Maintaining and enhancing one's health throughout their life contributes to their own and their country's overall growth. The Life Course Health Development (LCHD) framework proposes that an individual's health trajectory undergoes changes over the course of their life (Halfon & Hochstein, 2002). Notably, the timing and sequencing of biological, psychological, cultural, and historical events and experiences impact people's, and groups' health and development. These events and experiences can have a lasting impact on the health trajectory of an individual throughout their lifetime. When examining health trajectories, it is essential to consider the timing and sequence of these events and experiences, as earlier health behaviour intentions in the life course can have a lasting effect on outcomes later in the life course, making it essential to consider the intentions of younger cohorts such as young adults. This is especially true for noncommunicable diseases (NCDs), which contribute significantly to global mortality and morbidity (Wagner & Brath, 2012).

Despite global and demographic subgroup-specific initiatives to decrease mortality and morbidity, non-communicable diseases (NCDs) such as diabetes, cancer, depression, and stroke account for roughly 70% of all deaths worldwide, making them the leading cause of death (World Health Organisation, 2015). This is especially true for the current generation of young adults, who are at the leading edge of the obesity epidemic (Lee et al., 2011). Further, a report titled “Investing in the Health and Well-Being of Young Adults” argued that young adults should be considered separate from adolescents, and older adults (Bonnie et al., 2014). This highlights the importance of recognizing young adulthood as a distinct developmental period, as it is a critical time for health and well-being. The report concludes that young adulthood is a critical developmental period. In addition, to fully comprehend why people engage in health-harming or health-protective behaviours, it is also necessary to consider their economic preferences. These preferences and subsequent decisions may influence an individual's ability to obtain a balanced diet, participate, or refrain from engaging in health-harming activities.

The field of health economics suggests that risk perceptions can influence both the utilization of preventive medical treatment and the likelihood of engaging in health-related behaviours that increase or decrease the risk of mortality, such as smoking, alcohol consumption, and seat belt use. Research has indicated that health-related risky behaviours can be predicated using hypothetical gambling questions. Barsky et al. (1997) found that even after accounting for variables such as

age, gender, race, and religion, individuals with greater risk tolerance, as determined by their responses to these questions, were more likely to engage in behaviours such as smoking, drinking, and lacking health insurance. Therefore, it becomes necessary to investigate young adults' economic preferences and not health behaviours per se, but the behavioural intentions that drive these behaviours. Further, since behavioural risk factors are more prevalent in metropolitan areas in South Africa (Peer et al., 2013), these questions need to be interrogated in poor urban settings. Examining the factors that influence the health behaviours of young adults may aid in the prevention of non-communicable diseases, since the majority of NCDs are preventable as adolescents transition into young adults due to lifestyle factors and health-related behavioural intentions. Therefore, further examination of the relationship between behavioural intentions and economic preferences, focusing specifically on health-protective behaviours and health-harming decisions, is required.

This paper is structured into eleven main sections. Section 2 reviews the literature on behavioural intentions and economic preferences. Section 3 presents the problem statement. Section 4 presents the conceptual framework Section 5, 6, 7 and 8 outline the rationale, aim, objectives, and hypotheses for the study respectively. Section 9 describes the data. Section 10 explains the statistical methodology, while Section 11 presents the results of these analyses. Section 12 discusses the results, and Section 13 concludes.

## 2. LITERATURE REVIEW

Prior literature has documented the correlates and predictors of young adults' intentions to engage in harmful or protective health-related behaviours. Risky health-harming behaviours not only influence long-term health issues but may also hasten the onset of sickness, disability, or even death. According to Bonem et al. (2015), compared to young adults, older adults tend to perceive more risk in health and ethical domain behaviours. In addition, older individuals regarded risky behaviours in the health and ethics domains as less appealing and less likely to result in benefits than younger adults. Thus, there is evidence that intentions matter and may result in health-harming or health-protecting behaviour.

In classical economic theory, economists typically present decision-making issues within the utility maximization framework. Individual economic preference factors, such as risk preferences (Savage, 1954) or ambiguity preferences (Gilboa and Schmeidler, 1989), are combined with knowledge of multiple potential outcomes in uncertain situations in utility theory. According to

Becker et al. (2012), an individual's behaviour is shaped not only by their beliefs, perceptions, and future expectations but also by their preferences for risk, time, and social interactions, which collectively determine their overall utility. Several studies have examined the relationship between risk preference, time preference, and various health-related behaviours. For risk preferences, evidence suggests smoking, binge drinking, being overweight or obese, and not using a seat belt are all significantly and negatively correlated with risk aversion (Anderson et al., 2008; Dave & Saffer, 2008). Regarding health-harming behaviours like smoking, drinking, and using drugs, there is an apparent intertemporal trade-off: any short-term gains come with the risk of substantial long-term costs. Additionally, Children and adolescents who are more impatient are more likely to buy alcohol and cigarettes, have more significant body mass indices, be less inclined to save money, and misbehave in school (Sutter et al., 2013). Thus, to create successful intervention techniques, it is crucial to identify the characteristics that drive health-harming behaviours among young adults in each setting.

For time preferences, Borghans and Golsteyn (2006) argue that an increase in time discounting may contribute to the rise in Body Mass Index (BMI). They conclude that if individuals underestimate future health advantages, they may become overweight, but this is more probable due to alterations in other characteristics that influence inter-temporal choices about the trade-off between current and future health and well-being. Moreover, Courtemanche et al. (2015) discovered that as economic factors lower the cost of consuming food, individuals who are impatient tend to gain weight, while those who are more patient generally do not. Further, several meta-analyses have associated delay discounting with health behaviours. For example, Lawless et al. (2013) observed that the discount rates elicited for health are higher than those for money in both societal and personal settings. Further evidence suggests a consistent association between delayed discounting and addictive behaviours, including smoking, drinking, gambling, and cannabis use. However, the effect size magnitude is relatively small, and there is substantial heterogeneity (Amlung et al., 2017; Barlow et al., 2016/2017). In addition, delay discounting displays trait-like characteristics, meaning that individuals who have a steep discount rate for monetary outcomes also tend to have a steep discount rate for non-monetary outcomes (Odum et al., 2020). Significant research has been conducted on the relationship between risk and time preferences concerning risky habits, most notably smoking. Harrison et al. (2018) found that the risk preferences of smokers and non-smokers are similar. However, smokers tend to discount risk more heavily compared to non-smokers. The study also revealed that smoking intensity has a non-linear effect on discounting behaviour. Specifically, smoking intensity exponentially increases the

likelihood of discounting. This suggests that heavy smokers may be more prone to timing inconsistencies and may be less responsive to treatment interventions.

Another study showed current smokers exhibit lower patience and higher risk-taking tendencies than non-smokers. Ex-smokers are more patient and risk-averse, while heavy smokers display lowest patience and higher inclination towards risk (Ida and Goto, 2016). In western Iran, a higher discount rate was found to be associated with an increased likelihood of smoking. This study's results showed that a one-unit rise in the discount rate is related to an increase of 4.4% in the chance of smoking (Soofi et al., 2020). This indicates that present and heavy smokers prioritize short-term benefits over long-term consequences of smoking. While research on alcohol's impact on risk tolerance is limited, it has been found to increase impatience and decreases altruism, although it has no effect on risk tolerance itself (Corazzini et al.,2015).

Several studies have found that there are gender differences in risk and time preferences, and that these differences can influence health-related decision-making and behaviour. For instance, research indicates that females are typically more risk-averse than males, meaning they are less likely to take chances (Croson and Gneezy, 2009; Eckel and Grossman, 2002). This has been demonstrated to be true in numerous contexts, including financial and health-related decision-making (Charness and Gneezy, 2012; Gneezy et al., 2011). In terms of time preferences, Females tend to be more patient than males, meaning they are willing to delay gratification for a greater reward in the future, according to some studies (Gneezy et al., 2011). This may influence health-related behaviours, such as medication adherence or the adoption of preventive health behaviours. Regarding behavioural intentions, studies have revealed that males and females may have different intentions to engage in health-related behaviours. For instance, Keller (2008) discovered that males and females had distinct predictors of their intentions to engage in physical activity. Specifically, females were more motivated by the desire to improve their health, whereas males were more motivated by the desire to improve their physical appearance. Given this evidence on the gendered nature of both economic preferences and behavioural health intentions, we explore how gender differences in economic preferences may impact on gender gaps in behavioural health intentions, using decomposition analysis.

## 3. PROBLEM STATEMENT

According to prior research, behavioural intentions are determinants of health-harming and health-protective behaviours, and economic preferences, such as risk attitudes and delay discounting are

likely to drive behavioural intentions. However, in the first instance, it is unclear if these economic preferences are likewise related to the behavioural intentions that motivate observable lifestyle behaviours. We thus investigate whether or not economic preferences are associated with intentions to engage in a range of health-harming and health-preventive behaviours.

## 4. CONCEPTUAL FRAMEWORK

Gaining insights into the factors that shape economic preferences and behavioural health intentions among individuals is essential for the development of effective interventions and the promotion of positive health behaviours. Within the literature, various psychological constructs and biases have been identified as influential in shaping these preferences and intentions. Notably, human behaviour is influenced by two distinct cognitive processes: System 1 and System 2, as proposed by Nobel laureate Daniel Kahneman. These cognitive systems interact and play a significant role in decision-making.

In this context, System 1 thinking operates automatically, intuitively, and is often driven by heuristics and biases, while System 2 thinking is slower, deliberate, and analytical. Kahneman's book, "Thinking, Fast and Slow," provides valuable insights into these two thinking systems, shedding light on their distinctive characteristics and their impact on cognitive processes and behaviours (Kahneman, 2011). Moreover, when examining economic preferences and behavioural health intentions, it is crucial to consider the influence of **optimism bias**. This bias can lead individuals to underestimate the risks associated with unhealthy behaviours and overestimate the benefits of engaging in them. By skewing individuals' perceptions of the costs and benefits of health behaviours, optimism bias can significantly impact economic preferences. Furthermore, it can diminish individuals' perceived susceptibility to negative health outcomes, subsequently reducing motivation toward adopting health-protective behaviours. Similarly, **social desirability bias** can arise within the context of economic preferences and behavioural health intentions, wherein individuals may overstate their engagement in healthy behaviours or understate involvement in unhealthy behaviours. This bias can distort self-reported preferences for health behaviours and potentially introduce inaccuracies in measuring true preferences. Additionally, social desirability bias can influence behavioural health intentions by shaping individuals' perceived social norms and the pressure to conform to those norms.

Alternatively, **prospect theory** provides another theoretical perspective that emphasizes individuals' subjective evaluation of gains and losses rather than relying solely on objective

outcomes. This theory suggests that the framing of options and the relative weighting assigned to potential gains and losses can influence health behavioural intentions and economic preferences. Individuals may exhibit stronger intentions toward health behaviours when perceiving the potential health benefits as gains and the costs of unhealthy behaviours as losses.

Of particular importance, the theory of reasoned action, which has been extensively studied, asserts that an individual's behaviour is determined by their intention to perform a particular action. That intention is, in turn, a factor of their attitude toward that action and subjective standards (Ajzen & Fishbein, 1980). The Theory of Planned Behaviour (TPB) is essentially an extension of the Theory of Reasoned Action (TRA), and it incorporates measures of perceived behavioural control (PBC) and control belief (Ajzen, 1991). This theoretical approach has proven to help predict health behaviours across many domains. In the original TPB model, three predictors influence behavioural intention: attitudes, which refer to a psychologically favourable or unfavourable evaluation of a specific outcome or behaviour; subjective norms, which represent the pressure a person feels from their significant others to perform or not perform a behaviour; and perceived behavioural control, which is concerned with perceived ease or difficulty in achieving a specific behaviour (Ajzen, 1991).

Risk preferences can influence attitudes toward a particular behaviour. Even after accounting for factors such as age, sex, race, and religion, research has shown that individuals with a higher risk tolerance are more likely to engage in health-related risky behaviours (Barsky et al., 1997). Some research suggests that people with a greater preference for time may be more susceptible to immediate social pressures and less likely to consider the long-term consequences of their actions (Mollenkamp & Renner, 2015). This may result in an increased propensity to conform to subjective norms and engage in health-damaging behaviours. In addition, research indicates that an individual's risk and time preferences can interact with their perceived notion of behavioural control to influence their behaviour. For instance, one study found that individuals with higher levels of risk aversion were more likely to engage in healthy behaviours when they had a greater perception of behavioural control (Fagerlin et al., 2007). This suggests that risk-averse individuals may be more likely to engage in health-protective behaviours if they are confident in their ability to perform such behaviours.

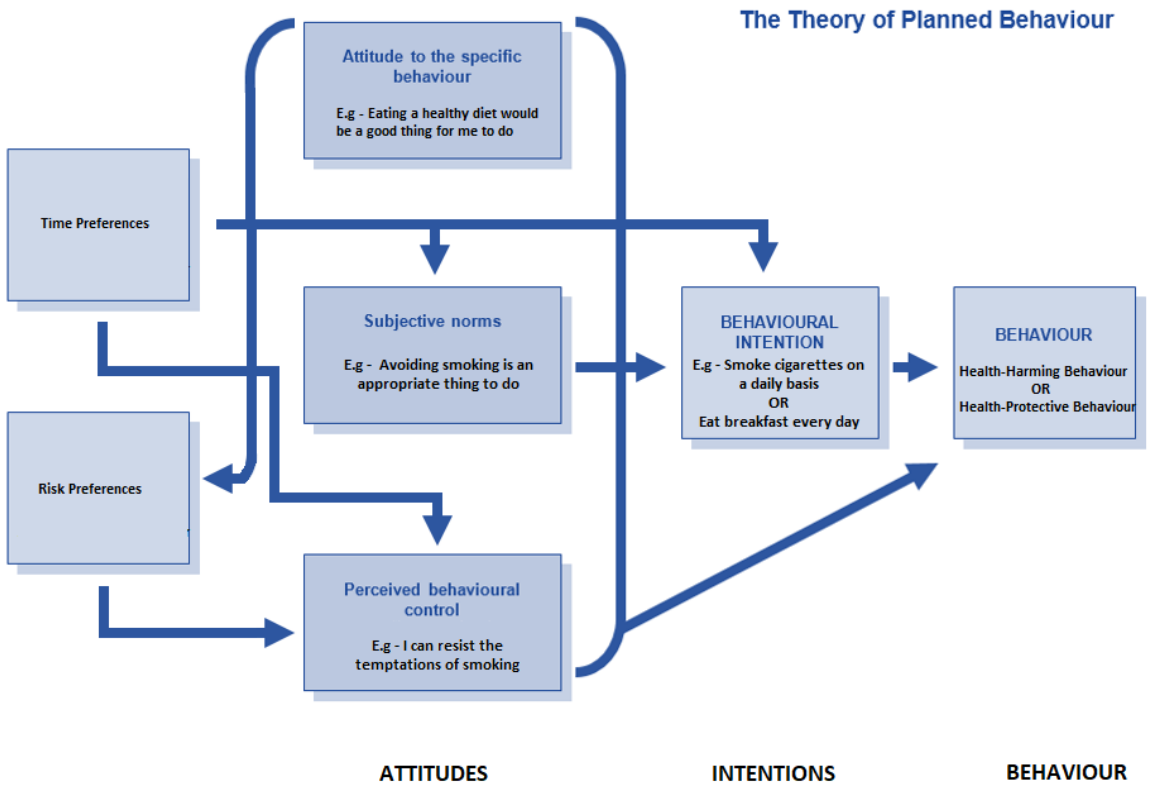



Figure- 1 Adapted from the Theory of Planned Behaviour (Ajzen, 1991)

The TPB omits, however, some potentially essential predictors of behavioural intentions, such as risk and time preferences as depicted in Figure-1, which, as discussed elsewhere, is not only associated with behaviours but is also likely to influence behavioural intentions.

Individuals' time preferences determine whether they are willing to forgo long-term health benefits for immediate gains, and vice versa, which is expected to influence their intentions to engage in risky or protective behaviours. In contrast, a person's risk preferences reveal his or her risk appetite for particular health behaviours. For instance, their risk attitudes are likely to influence the purchase of health insurance, the utilization of preventive medical care, and the propensity to engage in risky health behaviours that either increase or decrease mortality risk, such as smoking cigarettes or eating unhealthy foods. We therefore investigate the effect of these two economic preferences on health-harming or health-protective behavioural intentions.

## 5. RATIONALE

The rationale for this study stems from the need to further explore the complex relationship between economic preferences and behavioural health intentions among young adults. While existing literature has provided valuable insights, there are several gaps and limitations that warrant further investigation. While the literature on economic preferences and behavioural health intentions among young adults is limited, it is crucial to acknowledge and address the existing limitations in our research and prior studies. By doing so, we can enhance the validity and applicability of our findings and pave the way for further exploration in this field. One significant limitation is the potential lack of reliability and validity in the measures used to assess economic preferences. This raises concerns about measurement error, as respondents may be influenced by social desirability bias or lack self-awareness, leading to inaccurate reporting of risk-taking and time preferences, as well as health behavioural intentions. Furthermore, a limitation arises from the limited focus of previous research, which has primarily concentrated on the correlation between economic preferences and observed health behaviours rather than behavioural health intentions. This constraint prevents us from validating the contradictions we found in our data, limiting our ability to draw meaningful inferences and explanations.

Furthermore, the outcomes of our study may be influenced by the limited understanding among respondents regarding the significance of specific health behaviours and the influence of social stigma associated with certain health behaviours. These influential factors have the potential to impact the relationship between economic preferences and behavioural health intentions. To gain a deeper understanding of this association, it is crucial to consider various contextual elements, such as an individual's social environment, personal values, and the broader social and cultural backdrop within which health behaviours manifest. Additionally, the lack of measurements for relevant constructs, such as perceived behavioural control (PBC), hinders our understanding of the factors that determine behavioural intentions.

Recognizing these limitations, we can enhance the validity of our findings and contribute to a more comprehensive understanding of the association between economic preferences and behavioural health intentions. Thoroughly examining these factors that require attention is crucial to ensure the integrity and validity of our research findings. By openly acknowledging and addressing these considerations, we demonstrate transparency and a commitment to recognizing potential areas of improvement that may impact the strength of our results. Understanding the implications of these factors allows us to contextualize the scope and applicability of our findings, providing a solid

foundation for future research endeavours. Moreover, the identification and comprehensive evaluation of these considerations' present opportunities for future investigations to address and overcome these challenges, thereby advancing the field of study. Through critical analysis and reflection on these factors, we actively contribute to the ongoing refinement of research methodologies and deepen our understanding of the intricate phenomena under investigation. Ultimately, a comprehensive acknowledgement and in-depth analysis of these considerations bolster the overall quality and credibility of our research, fostering a robust scholarly discourse and propelling scientific progress.

Moving forward, our research aims to contribute to the development of an understanding of the association between behavioural health intentions and economic preferences among young adults, but within the context of understanding the limitations of the measures of economic preferences employed in our analysis.

## 6. AIM

This study's primary aim is to examine the relationships between intentions to participate in harmful and preventative health behaviours and two economic preferences: risk preference and time preference, including determining whether these associations are gendered in regards to inequality.

## 7. OBJECTIVES

1. To examine the relationship between the first measure of economic preferences - risk preference - and intentions to participate in health-harming and health-protective behaviours.
2. To examine the relationship between the second measure of economic preferences - time preference - and intentions to participate in health-harming and health-protective behaviours.
3. To examine whether there are significant gender gaps in health-harming or health-protective intentions and whether economic preferences contribute to explaining these gender gaps.

## 8. HYPOTHESES

1. Health-harming (health-protective) behavioural intentions are positively associated with risk-taking (risk-aversion).

2. Health-harming (health-protective) behavioural intentions are positively associated with being impatient (greater patience).

3. Gender disparities exist in health-harming (health-protective) behavioural health intentions and, that economic preferences mediate these disparities.

## 9. DATA

The survey from which the data used in this secondary data analysis originate, interviewed young adults (18-24 years). Study participants (subjects) were recruited purposively by conducting a door-to-door survey of a sample of households living in a poor informal urban settlement in Mangaung in the Free State province of South Africa. If there was more than one young adult in the particular household, a Kish selection grid was used to select one of the young adults in the household randomly. If there were no young adults in the household the young adults present in the household were not willing to be interviewed, the enumerators visited to the next household. The consenting respondents were interviewed face-to-face by trained enumerators using a structured questionnaire (Annexure C). The dataset includes information for a total of 240 respondents (120 females and 120 males).

The study was approved by the Ethics Committee Faculty of Economic & Management Sciences certificate number (UFS-HSD2018/1397) and all participants provided written informed consent prior to participation.

Data was collected on the intentions of various health-harming and health-protective behaviours. These health-harming behaviours listed in the questionnaire were smoking cigarettes, consuming alcohol, and eating highly concentrated fatty or salty foods. Similarly, the health-protective behaviours listed were exercising three times a week, eating a healthy breakfast daily, and eating vegetables and fruits once daily. Individuals' perceptions of their risk-taking or risk-aversion in response to hypothetical wagers were used to gather data on their economic preferences. Risk-takers will likely disregard the guaranteed reward for a chance at a more extensive, unknown payoff. The converse rationale is valid for risk-averse individuals, i.e, they would prefer a secured payment over an uncertain pay out from a gamble. According to Falk et al. (2018), respondents were asked the following questions regarding time preferences or "patience": "Suppose you had

the option of receiving a payment today or 12 months from now. Moreover, they gave five situations in which the current pay-out is the same in each case. However, the twelve-month payment varies in each situation. We like to understand which of the following scenarios you would prefer. Please assume there is no inflation, i.e, that future prices will be identical to those of today. Another question being: Would you rather receive 100 Rands today or x Rands in 12 months?", i.e, whether an individual would prefer obtaining a guaranteed payment now or a more extensive pay-out one year from now if offered.

Further, socio-demographic information on young adults was gathered to determine whether the target audience was successfully reached and if the desired information was gathered; these measures were primarily age, sex, marital status, education level, and employment situation. Self-assessment of perceived mental health status, and life satisfaction were gathered; these measures are taken from the country's National Income Dynamics Study (NIDS). The two questions administered to derive these measures were: "How would you describe your mental health at present? Would you say it is excellent, very good, good, fair, or poor?", "How do you feel about your life right now?". The 10-item CES-D short depression scale was utilized to measure the depressive symptoms of the respondents. The scale ranges from 0-30 with four-category responses (rarely or none of the time, some of the time, much of the time, most or all of the time).

To measure economic preferences, the short or so-called 'streamlined' version of the world social preference survey module developed by Falk et al. (2016) was used, which was also administered in South Africa as part of a global study and is available in Sesotho (www.global-preferences.org), the local language spoken in the study location. The module requires respondents to answer twenty questions measuring six sets of preferences (Falk et al, 2016). However, our research only focuses on two economic preferences: risk-taking and patience. Following the GPS manual's specifications, our study investigated these risk and time preferences using three sets of variables for each preference: a quantitative, qualitative, and combined measure (Falk et al., 2018).

## 10. METHODOLOGY

### 10.1 REGRESSION MODEL

The model specification for this study is specified as

$$\boldsymbol{Y_i = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \gamma X_3 + \epsilon_i}$$

$Y_i$ is the dependent variable that measures behavioural intentions, $\alpha_0$ is the intercept, $\beta_1 X_1, \beta_2 X_2$, **a**re the slopes along with primary independent variables- risk preference, and time preference- $\gamma X_3$ is a set of control variables, and $\epsilon_i$ is the residual term.

## 10.2 DEPENDENT VARIABLES

The surveys asked seven behavioural intentions questions, primarily "To what extent do you intend to do the following over the next month?" for different health-protective and health-harming behaviours and "To what extent do you intend to drink alcohol over the next month?" to measure drinking intentions. These behavioural intention constructs are all measured using a single item with a 7-point bipolar scale (Norman et al., 2007). For example, in the questionnaire, Question 10 asks, "To what extent do you intend to do the following over the next month?". Responses from this will be coded from a 7-point scale where "Definitely do not intend to do this" is coded as 1 for those with fewer intentions and "Definitely intend to do this" is coded as 7 for those who did have intentions. Alternatively, we create a new binary variable $\mathbf{Z_i}$ in which the response "Definitely do not intend to do this" is 0 [if 1-4 on the 7-point scale] for those with fewer intentions and "Definitely intend to do this" coded as 1 [if 5-7 on the 7-point scale] for those who had intentions. Similarly, question 11 inquires, "To what extent do you intend to drink alcohol over the next month?" where responses will also be coded as "Not at all" = 1 for those who do not have intentions to consume alcohol over the next month and "Completely willing" = 7 for those who have intentions to drink alcohol, for both questions a binary variable $\mathbf{Z_i}$ was constructed.

## 10.3 INDEPENDENT VARIABLES

The following questions in the survey incorporate the study's explanatory and control variables: Economic preferences (20 questions), Socio-demographic questions (5 questions), Mental Health status (1 question), Life satisfaction (1 question), and Emotional Well-being (10 questions).

$\mathbf{X_1}$ and $\mathbf{X_2}$ are explanatory variables for risk and time preferences, respectively. Correspondents had to choose from either "50/50 chance" = 1 for those demonstrating risk-taking behaviour and "sure payment" = 2 for those more risk averse. Similarly, for time preferences, the responses will be coded as "Today" =1 for those who discount the future steeply and "In 12 months" = 2 for those who ignore the future moderately. Those that use steep delay discounting favor smaller immediate

gains over greater delayed ones. Within variable $\mathbf{X_3}$ we examine self-perceived mental health status, socio-Demographics (sex, marital status, employment status, education level), life satisfaction, and emotional well-being, which will be used to evaluate their relationship with behavioural intentions. Life satisfaction is included as a covariate with mental health to adjust for the potential impact of an individual's mental condition on their intentions. It is coded as 1 = "Excellent to good health" and 0 = "fair to poor health." For life satisfaction, on a scale of 1 to 10, responses are coded where one means "Very dissatisfied" and ten means "Very satisfied." For depressive symptoms, the responses include three states of depressed affect, five on somatic symptoms, and two of positive affect. Options for each item range from "rarely or none of the time" (score of 0) to "all of the time" (score of 3). Total scores can range from 0 to 30. Reverse scoring for questions "e" and "h," respectively. Higher scores suggest a greater severity of symptoms (Radloff L.S, 1977).

The question for the ***quantitative risk-taking measure*** was as follows "You can choose between a sure payment of a particular amount of money, or a draw, where you would have an equal chance of getting x amount or receiving nothing. We will present to you five different situations" (The Global Preferences Survey, 2018). [See Appendix for a precise sequence of questions given by the "tree" logic]. Further, the ***qualitative measure*** question was posed as how willing or unwilling you are to take risks. Using a scale from 0 to 10, where zero means "completely unwilling to take risks" and a ten means you are "very willing to take risks."

Similarly, for the ***quantitative time preference*** **measure**, questions were - "Suppose you were given a choice between receiving a payment today or a payment in 12 months were asked. We will now present to you five situations" where in each circumstance, today's pay-out is the same, but the 12-month payment varies. [ See Appendix for the precise sequence of questions given by the "tree" logic] Further, the ***qualitative measure*** question was posed as the willingness to act in a certain way in four different areas. Again, using a scale from 0 to 10, where zero means you are "completely unwilling to do so" and ten means you are "very willing to do so."

Lastly, a combined measure is utilized, according to Falk et al. (2018). Weights are given by the coefficients of an OLS regression of observed behaviour in the experimental validation study on responses to the individual survey items, such that the sum of the weights to one. In practice, for almost all preferences, the coefficients assign roughly equal weight to all corresponding survey items. The weights are given by (See Annexure A).

## 10.4 THE BLINDER-OAXACA DECOMPOSITION

Identifying the fundamental causes of racial and gender disparities in the educational, labour market, health, and other outcomes have been the objective of a vast corpus of social scientific literature. Fairlie (2005) explains that the methodology of breaking down inter-group disparities in mean levels of an outcome into those that may be attributed to distinct observable features or "endowments" across groups and those attributable to the varying effects of characteristics or "coefficients" of groups has likely been the most popular strategy utilized in the last several decades to discover and quantify these causes. Blinder (1973) and Oaxaca are commonly credited with developing this technique (1973).

The objective of the Blinder-Oaxaca decomposition method is to decompose the difference in mean outcomes between two groups (in this case, the difference in behavioural health intentions between males and females) into two components: those attributable to differences in the characteristics or endowments of the two groups and those attributable to differences in the coefficients that relate these characteristics to the outcome of interest.

Blinder-Oaxaca decomposition aids in identifying and quantifying the individual contributions of group differences in quantifiable qualities to gender discrepancies in outcomes. In this paper, we employ the Blinder-Oaxaca decomposition method to investigate the extent to which differences in economic preferences (risk preference and time preference) between males and females contribute to observed differences in health-related behavioural intentions between these two groups.

Using the Blinder-Oaxaca decomposition technique, specifically the *oaxaca* routine in Stata (Jann, 2008), we decompose the gender gap in mean behavioural health intentions into two components: (a) differences in endowments of risk preference, time preference, and other characteristics between males and females, and (b) differences in the coefficients that relate these characteristics to behavioural health intentions for males and females.

Our research therefore employs the Blinder-Oaxaca decomposition method to determine whether and to what extent differences in risk preference and time preference between males and females account for the observed differences in health-related behavioural intentions between these two sexes. This method aids in elucidating the factors that contribute to health disparities between the sexes, thereby guiding the possible development of interventions to reduce these disparities.

### 10.4.1 MODEL SPECIFICATION

According to Jann (2008), given two groups, *A* and *B*; an outcome variable, *Y*; and a set of predictors, one is set to conduct a decomposition. For example, consider a group of males and a group of females, behavioural health intentions as the outcome variable, and economic preferences such as risk preferences and time preference or "patience" as predictors. The question now is how much of the mean outcome difference,

$R = E(Y_A) - E(Y_B)$ (1)

where $E(Y)$ denotes the expected value of the outcome variable, is accounted for by group differences in the predictors.

Jann (2008) further explains that this is a "threefold" decomposition; that is, the outcome difference is divided into three components:

$R = E + C + I$ (2)

The first component,

$$E = \{E(X_A) - E(X_B)\}'\beta_B \quad (3)$$

amounts to the part of the differential that is due to group differences in the predictors (the "endowments effect"). The second component,

$$C = E(X_B)'(\beta_A - \beta_B) \quad (6)$$

measures the contribution of differences in the coefficients (including differences in the intercept) and the third component,

$$I = \{E(X_A) - E(X_B)\}' (\beta_A - \beta_B) \quad (5)$$

is an interaction term accounting for the fact that differences in endowments and coefficients exist simultaneously between the two groups.

The decomposition shown below is formulated from group B's (female) viewpoint. The coefficients of group B weight the group differences in the predictors to determine the endowments effect (*E*). The *E* component would measure the expected change in group B's mean outcome if group *B* had group A's predictor levels.

Similarly, the coefficient differences are weighted by group B's predictor levels for the C component above (the "coefficients effect"). The *C* component would measure the expected change in group B's mean outcome if group *B* had group *A*'s coefficients.

$$R = \{E(X_A) - E(X_B)\}'\beta_B + E(X_B)'(\beta_A - \beta_B) - \{E(X_A) - E(X_B)\}'(\beta_A - \beta_B) \quad (6)$$

## 11. RESULTS

### 11.1 DESCRIPTIVE ANALYSIS

Table 1(a) presents the descriptive statistics for the covariates in the study. The covariates include age, sex, marital status, education level, current employment, health status, life satisfaction, and depression (measured by the number of depressive symptoms). The average age of the participants was 20.6 years. The sex variable, as a result of the study design was evenly split between males and females (50% each), and most participants, as expected were never married (77.8%). In terms of education, the most common level was some secondary education (57.3%), followed by Grade 12 (30.5%).

**Table 1.** Descriptive statistics

**a) Socio-demographic characteristics**

| Variable | Obvs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| **Age (years)** | 240 | 20.604 | 2.111 | 18 | 24 |
| **Sex** | | | | | |
| Male | 120 | 0.50 | 0.501 | 0 | 1 |
| Female | 120 | 0.50 | 0.501 | 0 | 1 |
| **Marital Status** | | | | | |
| Married | 239 | 0.046 | 0.210 | 0 | 1 |
| Living With Partner | 239 | 0.176 | 0.381 | 0 | 1 |
| Never Married | 239 | 0.778 | 0.416 | 0 | 1 |
| **Education Level** | | | | | |
| None | 239 | 0.008 | 0.091 | 0 | 1 |
| Primary | 239 | 0.075 | 0.264 | 0 | 1 |
| Some Secondary | 239 | 0.573 | 0.496 | 0 | 1 |
| Grade 12 | 239 | 0.305 | 0.462 | 0 | 1 |
| Diploma Or Degree | 239 | 0.017 | 0.129 | 0 | 1 |
| Other | 239 | 0.021 | 0.143 | 0 | 1 |
| **Current Employment** | | | | | |
| Student Or Learner | 239 | 0.205 | 0.405 | 0 | 1 |
| Unemployed | 239 | 0.728 | 0.446 | 0 | 1 |
| Employed | 239 | 0.054 | 0.227 | 0 | 1 |
| Other | 239 | 0.013 | 0.112 | 0 | 1 |
| **Health Status** | | | | | |
| Excellent | 240 | 0.138 | 0.345 | 0 | 1 |
| Very Good | 240 | 0.146 | 0.354 | 0 | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Good | 240 | 0.396 | 0.490 | 0 | 1 |
| Fair | 240 | 0.275 | 0.447 | 0 | 1 |
| Poor | 240 | 0.046 | 0.210 | 0 | 1 |
| **Life Satisfaction** | 240 | 5.529 | 2.627 | 1 | 10 |
| **Depression** (number of depressive symptoms) | 240 | 10.383 | 5.133 | 0 | 27 |

**b) Measures of Economic Preferences**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| **Qualitative Measure** | | | | | |
| Risk | 240 | 5.233 | 3.370 | 0 | 10 |
| Patience | 240 | 6.467 | 3.311 | 0 | 10 |
| **Quantitative Measure** | | | | | |
| Risk | 231 | 14.797 | 10.555 | 1 | 32 |
| Patience | 230 | 8.652 | 11.054 | 1 | 32 |
| **Combined measure** | | | | | |
| Risk | 231 | 9.743 | 5.217 | 0.473 | 20.406 |
| Patience | 230 | 8.03 | 7.876 | 0.712 | 25.653 |

Regarding employment status, most participants were unemployed (72.8%), followed by students or learners (20.5%). Regarding mental health status, most participants rated their health as good (39.6%), followed by fair (27.5%). The average life satisfaction score was 5.5, and the average number of depressive symptoms reported by respondents was 10.3.

Table 1(b) shows that, for the qualitative measure of risk-taking, the mean score is 5.2, which would mean that our sample are somewhat indifferent to taking risks or being risk averse. The mean score for the qualitative measure of patience is 6.4, meaning that respondents in our sample are relatively patient. For the quantitative measure of risk-taking, the mean score is 14.7. However, in the quantitative measurement of patience, the mean score is 8.6. For the combined measure of risk-taking, the mean score is 9.7. Whereas for the combined measure of patience, the mean score is 8.03. Overall, the descriptive statistics of Table 1 provide a comprehensive overview of the covariates in the study, which helps to characterize the sample and inform subsequent analyses. The respondents thus had a range of economic preferences, with some variation in their responses on all three measures, i.e. both the qualitative and quantitative measures, and as a result, the combined measure.

**Table 2.** Spearman's correlations between behavioural health intentions

| Variables | Smoking | Exercise | Breakfast | Salts/ Fat | Veg | Fruit | Alcohol |
|---|---|---|---|---|---|---|---|
| Smoking | 1.000 | | | | | | |
| Exercise | 0.118* | 1.000 | | | | | |
| Breakfast | -0.060 | 0.022 | 1.000 | | | | |
| Salts/ Fat | -0.044 | -0.110 | 0.145* | 1.000 | | | |
| Vegetables | -0.068 | 0.175** | 0.165* | 0.057 | 1.000 | | |
| Fruit | 0.005 | 0.279** | 0.258*** | -0.009 | 0.376* | 1.000 | |
| Alcohol | 0.163* | -0.051 | 0.126* | 0.074 | 0.136 | 0.112* | 1.000 |

Notes: Pairwise partial correlations coefficients. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

The correlation statistics of the seven behavioural intentions variables in the study are summarised in Table 2. Intentions to exercise and drink alcohol are significantly positively correlated with smoking intentions suggesting that young adults who intend to smoke may intend to drink and exercise. Intentions to exercise are positively correlated towards intentions to eat fruit and vegetables. As expected, we see positive and statistically significant correlations between intentions to eat fruit, have breakfast and eat vegetables.

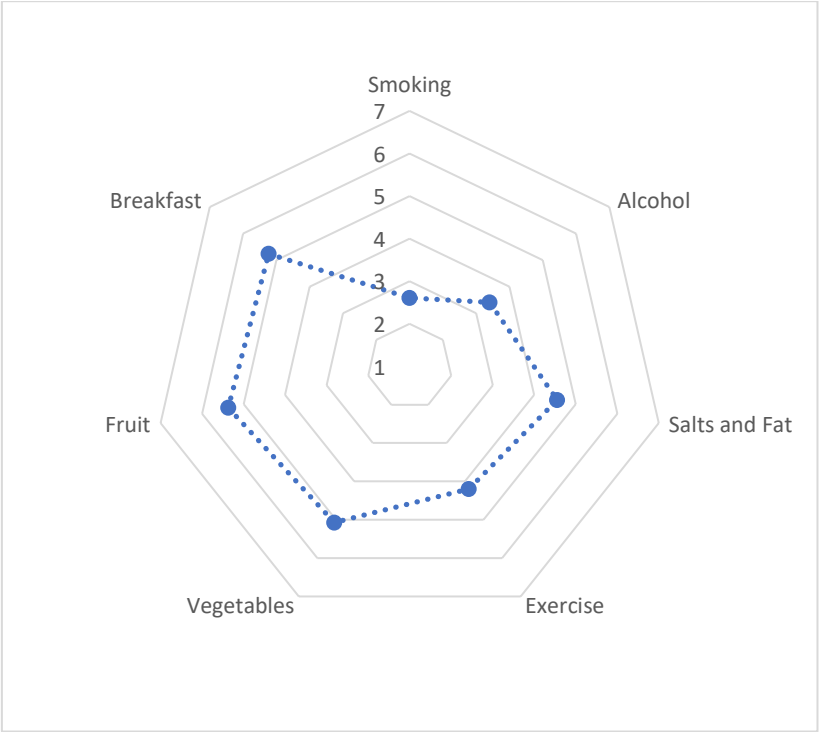



Figure- 2. Prevalence of behavioural health intentions, by health behaviour

The radar/spider chart in Figure- 2 describes the data for the seven behavioural health intentions. The seven behavioural intentions of interest (yellow spokes) are intentions to smoke, to drink

alcohol, to eat breakfast, to exercise three or more times a week, to eat vegetable's at least once a day, to eat fruits once or more a day, and to consume foods with high content in salts and fats. The y-axis of the chart describes the ordinal 7-point scale in which each behavioural intention is measured where "**1**" means to definitely not intend to perform these behaviours and "**7**" means to definitely intend to engage in that particular behaviour. The blue spokes represent the means of the scale for each behavioural intention. According to the chart, the respondents in our sample are somewhat indifferent toward intentions for health-harming behaviours such as drinking alcohol (mean score = 3.40) and eating salts and fat (mean score = 4.55), whereas graphically it is quite visible that our sample have higher intentions for health-protective behaviours such as exercise (mean score = 4.2), eating breakfast (mean score = 5.23), eating vegetables (mean score = 5.07), eating fruits (mean score = 5.37), and not intending to smoke (mean score = 2.60).

## 11.2 PROBIT REGRESSION ANALYSIS

The hypotheses were tested using the ordered probit regression results to determine which economic preference variables had a significant statistical association with health-protective or health-harming behavioural intentions. These results are presented in Table 3.

**Table 3**. Economic Preferences and Behavioural health intentions

| | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| **Behavioural Intentions** | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| Smoking | 0.0299 (0.0299) | -0.0560* (0.0291) | -0.006 (0.0088) | -0.0066 (0.0082) | -0.008 (0.0178) | -0.011 (0.0115) |
| *Pseudo $R^2$* | *0.1364* | | *0.1283* | | *0.1284* | |
| Exercise | 0.0227 (0.0242) | -0.005 (0.0245) | -0.0036 (0.0072) | 0.0098 (0.0069) | -0.007 (0.0148) | 0.013 (0.0096) |
| *Pseudo $R^2$* | *0.0740* | | *0.0815* | | *0.0813* | |
| Breakfast | 0.0354 (0.025) | -0.0531** (0.025) | -0.0169** (0.007) | -0.0113 (0.0071) | -0.0268* (0.0153) | -0.0176* (0.00995) |
| *Pseudo $R^2$* | *0.0443* | | *0.0446* | | *0.0426* | |
| Salts and fat | 0.012 (0.023) | -0.0200 (0.0235) | 0.0009 (0.007) | -0.005 (0.006) | 0.006 (0.0142) | -0.009 (0.009) |
| *Pseudo $R^2$* | *0.0302* | | *0.0354* | | *0.0359* | |
| Vegetables | 0.0547 (0.0239) | 0.0190 (0.023) | -0.0080 (0.007) | -0.0060 (0.006) | -0.0060 (0.014) | -0.0060 (0.009) |
| *Pseudo $R^2$* | *0.0291* | | *0.0221* | | *0.0203* | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Fruit | 0.0546** (0.024) | -0.0425* (0.024) | -0.0052 (0.007) | 0.00289 (0.007) | -0.002 (0.015) | 0.003 (0.009) |
| *Pseudo $R^2$* | *0.0571* | | *0.0587* | | *0.0579* | |
| Alcohol | 0.0649*** (0.0250) | -0.0344 (0.0247) | 0.0074 (0.0074) | -0.0015 (0.0071) | 0.0254* (0.0151) | -0.003 (0.0099) |
| *Pseudo $R^2$* | *0.0362* | | *0.0260* | | *0.0285* | |
| Sample (N) | 238 | | 222 | | 222 | |

Notes: Ordered probit regression models with ordinal 7-point scale for behavioural intentions. Robust standard errors in parentheses.; * p < 0.10, ** p < 0.05, *** p < 0.01. Regression models are adjusted for age, sex, current marital status, highest level of education, current employment situation, health status, life satisfaction and depression.

The coefficient for the qualitative measure of risk preference for intentions to **smoke** is not statistically significant, but the coefficient for the qualitative time preference towards smoking intentions is negative and statistically significant at the 10% level. A negative coefficient indicates that as time preference increases, smoking intentions decline. Those who place a higher value on future outcomes are, therefore, less likely to intend to smoke. Intentions to **exercise** were not significantly associated with all three measures of economic preferences i.e. nor with risk or time preferences. The coefficients for the qualitative and combined measure of time preference are statistically significant at the 5% and 10% levels, being negative -0.0531 and -0.017, indicating that an increase in time preference or being more patient (i.e. placing less value on immediate outcomes) is associated with a decrease in the likelihood of having the intention to eat **breakfast**, after controlling for other variables. The coefficient of the qualitative measure for risk preferences was not significantly associated with intentions to eat **breakfast** but the coefficients of the quantitative measure (-0.0169) and the combined measure (-0.0268) were negative and statistically significant at the 5% and 10% levels, respectively thus suggesting that an increase in risk-taking preferences is negatively associated with intending to eat **breakfast**.

There is no significant relationship between economic preferences and the intention to consume food that is high in **salts and fat**, and to eat **vegetables**. The coefficient for qualitative measure of risk preference is positive and statistically significant (coefficient = 0.0546) at the 5% level, indicating that individuals who are more willing to take risks are more likely to intend to consume **fruit**. The coefficient for time preference is negative and statistically significant (coefficient = -0.0425) at the 10% level, suggesting that individuals who place less value on immediate rewards are likely to intend to consume **fruit**. The coefficient for the combined measure is not significant. The coefficient for time preference is not statistically significant either, indicating that time preference does not influence intentions to consuming **alcohol**. On the other hand, the coefficients

for the qualitative and combined measures of risk preference are positive and statistically significant at the 1% and 10% levels, respectively, indicating that higher risk-taking preference significantly more likely influences an individual's behavioural intention to consume **alcohol**.

Table 4 reports the results of the probit analysis of economic preferences and health behaviour intentions since, using the binary variables for each behavioural intention (e.g. intending to smoke or not). There is no significant relationship between the qualitative and quantitative measures of economic preferences and the intention **smoke**. However, the coefficient for the Combined Measure of time preference is negative and significant at the 10% level for **smoking** (-0.0253). Specifically, a unit increase in time preferences is associated with a 0.0253 or approximately 2.5% decrease in the probability of intending to **smoke**.

**Table 4**. Economic Preferences and Behavioural health intentions

| | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| **Behavioural Intentions** | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| Smoking | 0.0566 (0.0356) | -0.066 (0.0351) | -0.0015 (0.0103) | -0.016 (0.0103) | -0.0042 (0.0209) | -0.0253* (0.0145) |
| *Pseudo $R^2$* | *0.1737* | | *0.1624* | | *0.1652* | |
| *Sample Size* | *223* | | *208* | | *208* | |
| Exercise | 0.0268 (0.0298) | -0.006 (0.030) | -0.0011 (0.009) | 0.0108 (0.008) | -0.019 (0.018) | 0.0149 (0.011) |
| *Pseudo $R^2$* | *0.1763* | | *0.1889* | | *0.1874* | |
| *Sample Size* | *238* | | *221* | | *221* | |
| Breakfast | 0.0337 (0.030) | -0.0596* (0.030) | -0.0151* (0.009) | -0.0135 (0.008) | -0.0245 (0.0185) | -0.0212* (0.0117) |
| *Pseudo $R^2$* | *0.1060* | | *0.1137* | | *0.1123* | |
| *Sample Size* | *235* | | *218* | | *218* | |
| Salts and fat | 0.014 (0.0281) | -0.045 (0.0285) | 0.007 (0.008) | -0.004 (0.008) | -0.0123 (0.0172) | -0.009 (0.011) |
| *Pseudo $R^2$* | *0.0632* | | *0.0698* | | *0.0699* | |
| *Sample Size* | *238* | | *221* | | *221* | |
| Vegetables | 0.0526 (0.028) | 0.016 (0.028) | -0.0055 (0.008) | 0.0029 (0.008) | -0.0028 (0.017) | 0.0056 (0.011) |
| *Pseudo $R^2$* | *0.0411* | | *0.0378* | | *0.0368* | |
| *Sample Size* | *236* | | *221* | | *221* | |
| Fruit | 0.0301 (0.029) | -0.0465 (0.030) | -0.0081 (0.009) | 0.0122 (0.009) | -0.012 (0.018) | 0.015 (0.012) |
| *Pseudo$R^2$* | *0.1096* | | *0.1312* | | *0.1287* | |
| *Sample Size* | *234* | | *217* | | *217* | |
| Alcohol | 0.0649** (0.0296) | -0.0503* (0.0294) | -0.0039 (0.0088) | -0.005 (0.0084) | 0.0019 (0.0179) | -0.008 (0.0118) |
| *Pseudo $R^2$* | *0.0808* | | *0.0595* | | *0.0595* | |
| *Sample Size* | *232* | | *217* | | *217* | |

Notes: Probit regression models for binary intentions variable. Robust standard errors in parentheses.; * p < 0.10, ** p < 0.05, *** p < 0.01. Regression models are adjusted for age, sex, current marital status, highest level of education, current employment situation, health status, life satisfaction and depression.

There is no significant relationship between an individual's willingness to take risks or be patient and their likelihood to intend to **exercise**. The coefficients of the qualitative (-0.0596) and combined (-0.0212) measure of time preference on intentions to consume **breakfast** are negative and statistically significant at the 10% level, which suggests that a unit increase in the qualitative measure of time preferences is associated with a 0.0596 or approximately 5.9% decrease in the probability to intend to consume **breakfast**. Similarly, an increase in the combined measure of time preference is associated with a 0.0212 or 2.1% decrease in the probability to intend to eat **breakfast**. Thus, an increase being more patient is associated with not intending to eat **breakfast** every day. The association of risk preference with the qualitative and combined measures are not statistically significant. Notably, at the 10% significance level, the quantitative measure of risk preference (coefficient = -0.0151) has a significant negative association on the intentions towards **breakfast** consumption, which suggests that a unit increase in the quantitative measure of risk preferences is associated with a 1.5% decrease in the probability of the intention to eat breakfast i.e. risk-aversion is associated with not intending to have **breakfast**.

All coefficients for economic preferences are insignificant, indicating that there is no significant relationship between an individual's willingness to take risks or have patience and their intention to consume foods with high levels of **salts and fats**, or **eat vegetables** and **fruits.** The coefficient for the qualitative measure of risk preference is 0.0649, indicating that there is a positive relationship between risk preference and intentions to consume **alcohol**. This coefficient is significant at the 5% level. The coefficient for the same qualitative time preference measure is -0.0503, which indicates a negative association between time preference and intentions to consume **alcohol** i.e. patience is negatively associated with drinking **alcohol**. At the 10% significance level, this coefficient is significant. Both the quantitative and combined measures of economic preferences are not statistically significantly associated with intentions to consume **alcohol**.

Overall, we observe significant similarities in coefficients for the majority of health behavioural intention. We observe significant results for economic preferences in both the ordinal regression models (nine significant coefficients excluding the composite measures) and binary regression models (six significant coefficients), which makes our results consistent as the latter model confirms the robustness of the former. Further, all significant coefficients for both risk and time preferences in these two models are consistent in terms of direction and across all three measures

of economic preferences. We may observe relatively less significant coefficients in the binary model as a result of loss of information while restricting seven ordinal categories into two, which could reduce the explanatory power of the variable under consideration.

### 11.3 SEEMINGLY UNRELATED REGRESSIONS ANALYSIS

Table 5 displays the results of the Seemingly Unrelated Regressions estimated for the relationship between economic preferences and behavioural health intentions. The table presents the coefficients for the ordinal scale, including the qualitative measure, quantitative measure, and combined measure of risk preference and time preference for each behavioural intention, including smoking, exercise, breakfast, salts and fat, vegetables, fruits, and alcohol.

**Table 5**. Economic Preferences and Behavioural health intentions

| | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| **Behavioural Intentions** | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| Smoking | 0.0368 (0.0460) | -0.0970** (0.0463) | -0.009 (0.0139) | -0.0136 (0.0133) | -0.0139 (0.0283) | -0.0231 (0.0185) |
| $R^2$ | *0.2407* | | *0.2290* | | *0.2299* | |
| Exercise | 0.0369 (0.044) | -0.008 (0.044) | -0.0088 (0.0131) | 0.0188 (0.0125) | -0.017 (0.0268) | 0.0254 (0.0175) |
| $R^2$ | *0.2615* | | *0.2781* | | *0.2774* | |
| Breakfast | 0.0625 (0.042) | -0.0885** (0.042) | -0.0169** (0.0126) | -0.0215* (0.0121) | -0.0430* (0.0258) | -0.0334** (0.0169) |
| $R^2$ | *0.1239* | | *0.1306* | | *0.1257* | |
| Salts and fat | 0.024 (0.0420) | -0.038 (0.0422) | 0.0012 (0.0123) | -0.009 (0.0118) | 0.0107 (0.0251) | -0.015 (0.016) |
| $R^2$ | *0.0973* | | *0.1151* | | *0.1169* | |
| Vegetables | 0.0956** (0.0396) | 0.0300 (0.0396) | -0.0132 (0.012) | -0.007 (0.011) | -0.008 (0.024) | -0.007 (0.024) |
| $R^2$ | *0.0972* | | *0.0704* | | *0.0652* | |
| Fruit | 0.0732** (0.034) | -0.0584* (0.034) | -0.0082 (0.010) | 0.008 (0.009) | -0.006 (0.021) | 0.009 (0.013) |
| $R^2$ | *0.1622* | | *0.1763* | | *0.1735* | |
| Alcohol | 0.1246** (0.049) | -0.074 (0.049) | 0.0143 (0.015) | -0.004 (0.014) | 0.0481 (0.030) | -0.008 (0.020) |
| $R^2$ | *0.1199* | | *0.0910* | | *0.0976* | |
| Sample (N) | 238 | | 222 | | 222 | |

Notes: Seemingly unrelated regressions with 7-point scale for behavioural intentions. Robust standard errors in parentheses.; * p < 0.10, ** p < 0.05, *** p < 0.01. Regression models are adjusted for age, sex, current marital status, highest level of education, current employment situation, health status, life satisfaction and depression.

At the 5% significance level, the **smoking** intention coefficient (-0.0970) for the qualitative measure of time preference is negative and statistically significant. This indicates that time preference (impatience) is likely to have positive association with health-harming behaviours such as intending to **smoke**. The regression analysis indicates that all measures of risk preference and time preference are not statistically significantly associated with intentions to **exercise** and to consume **salts and fats.** The **breakfast** coefficient is negative and significant at the 5% level for qualitative measure (-0.0885), at the 10% level for quantitative measure (-0.0215), and at the 5% level for combined measure (-0.0334) of time preferences, indicating that stronger health-protective behavioural intentions such as eating **breakfast** every day is negatively associated with a higher time preference i.e. being impatient. For risk preferences, the coefficients for the quantitative measure (-0.0169) and the combined measure (-0.0334) were negative and significant at the 5% and 10% levels, respectively thus indicating that health-protective behavioural intentions such as eating **breakfast** every day is negatively associated with risk-taking.

The coefficient of the qualitative risk preference measure (0.0956) indicates that intention to eat **vegetables** is significant at the 5% level, which suggests that individuals who are risk-takers are more likely to intend to consume **vegetables**. The coefficient for the other measures of economic preferences is not statistically significant. Individuals with higher qualitative risk preferences (who are more risk-loving) are more likely to consume **fruit**, as indicated by the positive coefficient of (0.0732), which is statistically significant at the 5% level. This suggests that there is a significant association between risk preferences and fruit consumption and that health-protective behavioural intentions such as eating **fruits** every day is positively associated with risk-taking. Similarly, the coefficient for the qualitative measure of time preferences (-0.0584) is negative and statistically significant at the 10% level, suggesting that individuals who place less value on immediate rewards are more likely to intend to consume **fruit** and that health-protective behavioural intentions such as eating **fruits** once or more times a day is negatively associated with being patient.

The qualitative measure of risk preference has a positive significant coefficient of (0.1246) at the 5% level for intentions of drinking **alcohol**, indicating a positive association between economic preferences and **alcohol** consumption intention i.e. young adults with a greater risk appetite express greater intentions to drink **alcohol**. However, the other quantitative and combined

measures of risk preference and time preference do not exhibit significant associations with intentions to drink **alcohol**.

Table 6 displays the estimated results of the seemingly unrelated regressions for the relationship between economic preferences and health behaviour intentions for the binary variable for each behavioural intention (e.g. intend to smoke or not).

**Table 6**. Economic Preferences and Behavioural health intentions

| | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| **Behavioural Intentions** | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| Smoking | 0.0109 (0.008) | -0.0180** (0.008) | -0.0003 (0.002) | -0.003 (0.002) | 0.0009 (0.005) | -0.005* (0.003) |
| $R^2$ | *0.1870* | | *0.1725* | | *0.1753* | |
| Exercise | 0.009 (0.009) | -0.002 (0.009) | -0.0036 (0.0028) | 0.0036 (0.0027) | -0.006 (0.005) | 0.004 (0.003) |
| $R^2$ | *0.2239* | | *0.2409* | | *0.2390* | |
| Breakfast | 0.0117 (0.0098) | -0.0192* (0.0098) | -0.004* (0.0029) | -0.004 (0.0027) | -0.007 (0.005) | -0.007* (0.003) |
| $R^2$ | *0.1375* | | *0.1477* | | *0.1457* | |
| Salts and fat | 0.005 (0.0105) | -0.016 (0.0105) | 0.002 (0.003) | -0.001 (0.003) | 0.004 (0.006) | -0.003 (0.004) |
| $R^2$ | *0.0842* | | *0.0961* | | *0.0960* | |
| Vegetables | 0.019* (0.0102) | 0.005 (0.0103) | -0.002 (0.003) | -0.001 (0.002) | -0.001 (0.006) | -0.002 (0.004) |
| $R^2$ | *0.0658* | | *0.0553* | | *0.0541* | |
| Fruit | 0.009 (0.009) | -0.014 (0.009) | -0.002 (0.002) | 0.003 (0.002) | -0.004 (0.005) | 0.004 (0.003) |
| *Pseudo* $R^2$ | *0.1362* | | *0.1704* | | *0.1676* | |
| Alcohol | 0.0222** (0.0098) | -0.017* (0.009) | -0.001 (0.003) | -0.001 (0.028) | 0.0012 (0.006) | -0.002 (0.004) |
| *Pseudo* $R^2$ | *0.1130* | | *0.0855* | | *0.0858* | |
| Sample (Obs) | 238 | | 222 | | 222 | |

Notes: Seemingly unrelated regression with binary intentions variable. Robust standard errors in parentheses.; * p < 0.10, ** p < 0.05, *** p < 0.01. Regression models are adjusted for age, sex, current marital status, highest level of education, current employment situation, health status, life satisfaction and depression.

The coefficients for intentions to **smoke** for the qualitative measure of risk preference measure is not statistically significant, whereas the coefficient for the qualitative measure (-0.018) and the

combined measure (-0.005) of time preference are negative and statistically significant at the 5% and 10% level respectively, indicating that a unit increase in time preferences decreases the probability of the intention to **smoke** by 1.8% and 0.5% respectively. These results indicates that, being more patient is negatively associated with intentions to **smoke**. The quantitative measures of economic preferences are not significant and are thus not associated with smoking intentions.

The coefficients on the intention to consume **breakfast** for the qualitative (-0.0192) and combined (-0.007) measures of time preferences are negative and significant at the 10% level, suggesting that a unit increase in the qualitative measure of time preferences is associated with a 0.0192 or approximately 1.9% decrease in the probability of the intention to consume **breakfast**. Similarly, an increase in the combined measure of time preference is associated with a 0.007 or 0.7% decrease in the probability of the intention to eat **breakfast**. Thus, being patient is associated with weaker intentions to eat **breakfast** every day. Conversely, for risk preferences, neither the coefficients on the qualitative nor the combined measure are statistically significant, whereas the coefficient of the quantitative measure (-0.004) is negative and significant at the 10% level which suggests that a unit increase in the risk preference or risk-taking would decrease the probability of the intentions to eat **breakfast** by 0.004 units or 0.4% and thus indicates that risk-taking is negatively associated with intending to eat **breakfast**.

All coefficients for economic preferences are insignificant, indicating that there is no significant relationship between an individual's willingness to take risks or be patient and their intention to consume foods with high levels of **salts and fats,** or to **eat fruits,** or to **exercise** three or more times a week**.** The qualitative risk preference measure reveals that intentions to eat **vegetable** has a significant coefficient of 0.019 at the 10% significance level, indicating that a unit increase in risk preferences decreases the probability of the intention to eat **vegetables** by 0.019 units or 1.9%. Thus, risk-taking is negatively associated with intending to eat **vegetables** at least once a day. Neither the coefficient for quantitative measure of time preference nor risk preference is statistically significant. Lastly, the qualitative measures of risk and time preferences have significant coefficients of (0.0222) and (-0.017) at the 5% and 10% levels, respectively, for the behavioural intention for consuming **alcohol**, indicating a positive association with risk preferences i.e. risk-taking is positively associated to intentions to drink **alcohol** where a unit increase in risk preferences increases the probability of the intention to drink **alcohol** by 2.2%**.** Further, a negative association is observed with intentions to drink **alcohol** and time preferences i.e. patience is negatively associated with intentions to drink **alcohol** where a unit increase in patience decreases the probability of the intention to drink **alcohol** by 1.7%**.** Other quantitative

and combined measures of risk preference and time preference are not significantly associated with intentions to drink **alcohol**.

We note significant similarities in coefficients for the majority of behavioural health intentions. There are statistically significant coefficients for economic preferences in both the ordinal regression models (ten significant coefficients) and the binary regression models (eight significant coefficients), making our results consistent as the latter model confirms the robustness of the former. Further, all significant coefficients for both risk and time preferences in these two models are consistent in terms of direction and across all three measures of economic preferences. Notably, we find a common finding towards intentions to daily eat fruit where both ordinal models exhibit statistically significant coefficients for risk preferences however the binary model fails to capture this very same association. Thus, in the latter binary model, coefficients lose some statistical significance and become weakly associated with economic preferences which may be attributed to the reduction in discriminatory power when the seven ordinal categories are collapsed into a binary outcome.

## 11.4 GENDER DIFFERENCES IN BEHAVIOURAL HEALTH INTENTIONS

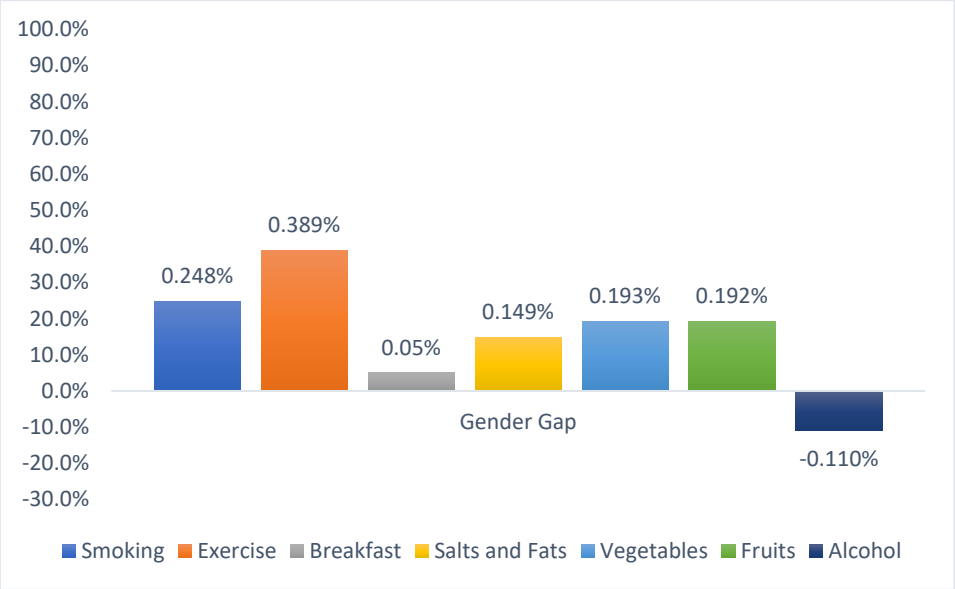



Figure- 3. Gender gaps in behavioural health intentions

The bar chart in Figure- 3 depicts the mean gender differences for the seven health-related behavioural intentions. To obtain a clearer picture of which of the seven behavioural intentions had a statistically significant sex difference, we conducted t-tests for each intention (Table-A), and

if the t-tests revealed a statistically significant difference, we went on to apply the blinder-oaxaca decomposition. Except for breakfast and vegetables, t-tests revealed that every other intention exhibited significant differences. Alcohol on the other hand, displayed a weak statistically significant difference so it was also included in the decomposition. The respondents in our sample appear to have a relatively large disparity between their intentions to exercise, smoke, and consume fruits, and vegetables, as depicted in the bar chart. Importantly, since our reference group is females suggesting that they have more health-protective behavioural intentions than males as seen by the positive mean intention differences in our chart.

**Table A.** Comparison of Behavioural Health Intentions using student's t-test

| **Behavioural Intentions** | **Mean** | | | **Difference** | **P-value** |
|---|---|---|---|---|---|
| | *Overall* | *Males* | *Females* | | |
| Smoking | 0.220 | 0.354 | 0.091 | 0.258 | 0.000*** |
| Exercise | 0.466 | 0.666 | 0.266 | 0.400 | 0.000*** |
| Breakfast | 0.633 | 0.608 | 0.658 | 0.050 | 0.423 |
| Salts | 0.485 | 0.557 | 0.416 | 0.141 | 0.028** |
| Vegetables | 0.507 | 0.658 | 0.591 | 0.058 | 0.353 |
| Fruit | 0.670 | 0.758 | 0.591 | 0.158 | 0.008*** |
| Alcohol | 0.340 | 0.400 | 0.291 | -0.108 | 0.078* |

* p < 0.10, ** p < 0.05, *** p < 0.01.

## 11.5 BLINDER-OAXACA DECOMPOSITION ANALYSIS

Tables 7 to 11 display the results of a probit Blinder-Oaxaca decomposition analysis and Tables 12 and 13 display the results of a linear Blinder-Oaxaca decomposition analysis for all measures of economic preferences. This analysis decomposes the differences in each behavioural intention (i.e. smoking, exercise, breakfast, salts and fats, vegetables, fruits, alcohol between two groups (Group 1: Male and Group 2: Female) into two components: differences in "endowments" (i.e. differences in individual characteristics such as risk and time preferences) and differences in "coefficients" (i.e. differences in the effects of these characteristics on each behavioural intention).

### 11.5.1 SMOKING

Table 7(a) displays, for the qualitative measures of economic preferences, in our sample, the mean predicted intentions to smoke is 34.0% for males and 9.20% for females, yielding a disparity in smoking intentions of 24.8%, which is statistically significant. The contribution of endowments to the observed gender gap in intentions to smoke was not statistically significant.

The overall contribution of coefficients is significant at the 1% level indicating that about 98.3% (0.238/0.242) of the disparity was attributed to the differential effect of the covariate entered in the model (coefficients effect) including general effect of unknown factors (_cons). The differential effects of the endowments, coefficients and interactions on risk and time preferences was not significant. Table 7(b) displays, for the quantitative measures of economic preferences, in our sample, the mean predicted intentions to smoke is 33.0% for males and 9.10% for females, yielding a disparity in smoking intentions of 2.48%, which is statistically significant. The contribution of endowments to the observed gender gap in intentions to smoke was not statistically significant however the overall contribution of coefficients was statistically significant at the 1% level. About 132% (0.320/0.242) of the disparity was attributed to the differential effect of the covariates entered in the model. The gender-based differential effect of the coefficients on time preferences on intentions to smoke (-0.076/0.242= 31.4%) made the greatest contribution to this part of the disparity and was statistically significant at the 5% level. The coefficient effect of time preferences is negative and indicates that if females were to have the same model coefficients as males for time preferences or patience, the observed disparity in intentions to smoke between the two groups would decrease. Similarly, in Table 7(c), for the combined measures of economic preferences the only notable significant coefficient was the gender-based differential effect of the coefficients on time preferences on intentions to smoke (-0.092/0.242= 38.0%) having made the greatest contribution to this part of the disparity, being statistically significant at the 10% level. The coefficient effect of time preferences is negative and indicates that if females were to have the same model coefficients as males for more patience, their intentions to smoke would decrease. Thus, we can infer that the observed gender gap in smoking intentions may be partly explained by differences in time preferences between males and females.

**Table 7**. Economic preferences and gender gaps in behavioural intentions to smoke

**(a)** Qualitative preference measures

| **Behavioural Intention** Smoking | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.340 | 0.044 | 0.000*** |
| | Group_2 (Female) | 0.092 | 0.026 | 0.000*** |
| | Difference | 0.248 | 0.051 | 0.000*** |
| | Endowments | 0.021 | 0.026 | 0.415 |
| | Coefficients | 0.238 | 0.065 | 0.000*** |
| | Interaction | -0.011 | 0.054 | 0.829 |
| **Endowments** | Risk Preference | -0.002 | 0.004 | 0.643 |
| | Time Preference | 0.007 | 0.020 | 0.725 |
| **Coefficients** | Risk Preference | -0.046 | 0.069 | 0.502 |
| | Time Preference | -0.106 | 0.114 | 0.352 |
| **Interactions** | Risk Preference | 0.0009 | 0.003 | 0.783 |
| | Time Preference | 0.015 | 0.039 | 0.707 |

**(b)** Quantitative preference measures

| **Behavioural Intention** Smoking | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.333 | 0.045 | 0.000*** |
| | Group_2 (Female) | 0.091 | 0.028 | 0.001*** |
| | Difference | 0.242 | 0.053 | 0.000*** |
| | Endowments | 0.010 | 0.026 | 0.696 |
| | Coefficients | 0.320 | 0.063 | 0.000*** |
| | Interaction | -0.088 | 0.048 | 0.066* |
| **Endowments** | Risk Preference | 0.006 | 0.004 | 0.882 |
| | Time Preference | 0.031 | 0.154 | 0.838 |
| **Coefficients** | Risk Preference | -0.017 | 0.055 | 0.754 |
| | Time Preference | -0.076 | 0.025 | 0.043** |
| **Interactions** | Risk Preference | 0.003 | 0.019 | 0.776 |
| | Time Preference | -0.076 | 0.229 | 0.585 |

**(c)** Combined preference measures

| **Behavioural Intention** Smoking | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.333 | 0.045 | 0.000*** |
| | Group_2 (Female) | 0.091 | 0.028 | 0.001*** |
| | Difference | 0.242 | 0.053 | 0.000*** |
| | Endowments | 0.018 | 0.026 | 0.459 |
| | Coefficients | 0.319 | 0.063 | 0.000*** |
| | Interaction | -0.095 | 0.046 | 0.037** |
| **Endowments** | Risk Preference | 0.007 | 0.404 | 0.985 |
| | Time Preference | 0.730 | 34.325 | 0.983 |
| **Coefficients** | Risk Preference | 0.036 | 0.081 | 0.611 |
| | Time Preference | -0.092 | 0.048 | 0.053* |
| **Interaction** | Risk Preference | -0.011 | 0.014 | 0.648 |

| | | | | |
|---|---|---|---|---|
| | Time Preference | 0.097 | 0.084 | 0.459 |

Notes: Probit blinder-oaxaca decomposition model; * p < 0.10, ** p < 0.05, *** p < 0.01.

### 11.5.2 EXERCISE

Table 8(a) displays, for the qualitative measures of economic preferences, in our sample, the mean predicted intentions to exercise is 65.8% for males and 26.9% for females, yielding a disparity in exercise intentions of 38.9%, which is statistically significant. The contribution of endowments to the observed gender gap in intentions to smoke was not statistically significant.

The overall contribution of coefficients was significant at the 1% level indicating that about 92.28% (0.359/0.389) of the disparity can be attributed to the differential effect of the covariates entered in the model (coefficients effect). The differential effect of neither time preferences nor risk preferences was significant. Table 8(b) displays, for the quantitative measures of economic preferences, in our sample, the mean predicted intentions to exercise is 65.4% for males and 26.3% for females, yielding a disparity in exercise intentions of 39.1%, which is statistically significant. The overall coefficient was significant and about 95.9% (0.375/0.391) of the disparity was attributed to the differential effect of the covariate entered in the model (coefficients effect) including the general effect of unknown factors (_cons). Neither measure of economic preferences was statistically significant. The contribution of endowments to the observed gender gap in intentions to smoke was not statistically significant and the overall contribution of coefficients was also not statistically significant. Similarly, in Table 8(c), for all measures of economic preferences, neither risk nor time preferences, be it endowments, coefficients, nor interactions, were statistically significant in explaining gender gaps in behavioural intentions.

**9**. Economic preferences and gender gaps in behavioural intentions to exercise

**(a)** Qualitative preference measures

| **Behavioural Intention** Exercise | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.658 | 0.044 | 0.000*** |
| | Group_2 (Female) | 0.269 | 0.040 | 0.000*** |
| | Difference | 0.389 | 0.060 | 0.000*** |
| | Endowments | -0.020 | 0.028 | 0.490 |
| | Coefficients | 0.359 | 0.071 | 0.000*** |
| | Interaction | 0.05 | 0.053 | 0.351 |
| **Endowments** | Risk Preference | 0.00 | 0.003 | 0.984 |
| | Time Preference | -0.01 | 0.029 | 0.784 |
| **Coefficients** | Risk Preference | 0.11 | 0.114 | 0.333 |
| | Time Preference | -0.15 | 0.160 | 0.349 |
| **Interactions** | Risk Preference | -0.01 | 0.012 | 0.672 |
| | Time Preference | 0.046 | 0.044 | 0.299 |

**(b)** Quantitative preference measures

| **Behavioural Intention** Exercise | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.654 | 0.046 | 0.000*** |
| | Group_2 (Female) | 0.263 | 0.041 | 0.000*** |
| | Difference | 0.391 | 0.062 | 0.000*** |
| | Endowments | 0.002 | 0.026 | 0.939 |
| | Coefficients | 0.375 | 0.065 | 0.000*** |
| | Interaction | 0.014 | 0.039 | 0.721 |
| **Endowments** | Risk Preference | -0.00 | 0.004 | 0.894 |
| | Time Preference | 0.004 | 0.029 | 0.893 |
| **Coefficients** | Risk Preference | -0.050 | 0.089 | 0.593 |
| | Time Preference | 0.002 | 0.044 | 0.964 |
| **Interactions** | Risk Preference | -0.010 | 0.016 | 0.668 |
| | Time Preference | 0.001 | 0.026 | 0.964 |

**(c)** Combined preference measures

| **Behavioural Intention** Exercise | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.654 | 0.046 | 0.000*** |
| | Group_2 (Female) | 0.263 | 0.041 | 0.000*** |
| | Difference | 0.391 | 0.062 | 0.000*** |
| | Endowments | 0.001 | 0.024 | 0.962 |
| | Coefficients | 0.375 | 0.065 | 0.000*** |
| | Interaction | 0.016 | 0.037 | 0.665 |
| **Endowments** | Risk Preference | -0.000 | 0.012 | 0.935 |
| | Time Preference | 0.003 | 0.035 | 0.942 |
| **Coefficients** | Risk Preference | -0.020 | 0.121 | 0.902 |
| | Time Preference | -0.000 | 0.061 | 0.961 |
| **Interaction** | Risk Preference | -0.020 | 0.121 | 0.902 |
| | Time Preference | -0.000 | 0.061 | 0.961 |

Notes: Probit blinder-oaxaca decomposition model; * p < 0.10, ** p < 0.05, *** p < 0.01.

### 11.5.3 SALTS AND FATS

Table 9a displays, for the qualitative measures of economic preferences, in our sample, the mean predicted intentions to consume foods with high salt and fat content are 59.7% for males and 43.2% for females, yielding a disparity in consumptions of salts and fats intentions being 16.5%, which is statistically significant at the 5% level. The overall contribution of endowments was not statistically significant. Similarly, the overall contribution of the coefficients was not statistically significant, although about 74.54% (0.123/0.165) of disparity was attributed to the differential effect of the covariates entered in the model (coefficients effect), including general effect of unknown factors. Neither measure of economic preference, neither risk nor time preferences were

statistically significant. Table 9b displays, for the quantitative measures of economic preferences, in our sample, the mean predicted intentions to consume salts and fats is 58.3% for males and 44.0% for females, yielding a disparity in consumptions of salts and fats intentions of 14.3%, which is statistically significant. In this case, the overall contribution of endowments was statistically significant at the 5% level, where 56.6% (0.081/0.143) of the disparity was attributable to the different distribution of the predictors (endowments). The overall contribution of the coefficients was not statistically significant. However, the differential effect of the coefficients on risk preferences (0.227/0.143 = 158.3%) had the greatest contribution to this part of the disparity which was highly significant at the 5% level, suggesting that if the effect of the coefficients on risk preferences for intentions to consume foods with high salt and fat were the same for both males and females (and holding all else equal), we may see an increase in intentions to consume salts and fat as much as 0.227 units. Similarly, in Table 9c, for the combined measures of economic preferences the overall endowments were statistically significant, but the general coefficients component was not significant. The primary factor contributing to the disparity in intentions to consume salts and fat was the differential effect of the coefficients on risk preferences between males and females specifically, the coefficients had a 204% (0.293/0.143) effect on females compared to males, and this difference was statistically significant at the 5% level. This indicates that if females had the same coefficients as males, the gender gap in intentions to consume salts and fats would widen by 204%.

**Table 9**. Economic preferences and gender gaps in behavioural intentions to consume foods with high salt and fat content

(a) Qualitative preference measures

| **Behavioural Intention** Salts/Fats | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.597 | 0.046 | 0.000*** |
| | Group_2 (Female) | 0.432 | 0.045 | 0.000*** |
| | Difference | 0.165 | 0.065 | 0.011** |
| | Endowments | 0.027 | 0.042 | 0.524 |
| | Coefficients | 0.123 | 0.089 | 0.142 |
| | Interaction | 0.015 | 0.069 | 0.831 |
| **Endowments** | Risk Preference | 0.0002 | 0.003 | 0.950 |
| | Time Preference | -0.020 | 0.030 | 0.418 |
| **Coefficients** | Risk Preference | -0.040 | 0.114 | 0.705 |
| | Time Preference | -0.004 | 0.163 | 0.980 |
| **Interactions** | Risk Preference | 0.002 | 0.006 | 0.752 |
| | Time Preference | 0.001 | 0.046 | 0.980 |

(b) Quantitative preference measures

| **Behavioural Intention** Salts/Fats | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.583 | 0.047 | 0.000*** |
| | Group_2 (Female) | 0.440 | 0.047 | 0.000*** |
| | Difference | 0.143 | 0.067 | 0.034** |
| | Endowments | 0.081 | 0.038 | 0.037** |
| | Coefficients | 0.082 | 0.082 | 0.325 |
| | Interaction | -0.020 | 0.065 | 0.774 |
| **Endowments** | Risk Preference | -0.010 | 0.010 | 0.438 |
| | Time Preference | 0.008 | 0.016 | 0.614 |
| **Coefficients** | Risk Preference | 0.227 | 0.086 | 0.009*** |
| | Time Preference | 0.014 | 0.040 | 0.736 |
| **Interactions** | Risk Preference | 0.030 | 0.030 | 0.326 |
| | Time Preference | 0.007 | 0.022 | 0.746 |

(c) Combined preference measures

| **Behavioural Intention** Salts/Fats | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.583 | 0.048 | 0.000*** |
| | Group_2 (Female) | 0.440 | 0.047 | 0.000*** |
| | Difference | 0.143 | 0.067 | 0.034** |
| | Endowments | 0.085 | 0.038 | 0.027** |
| | Coefficients | 0.095 | 0.082 | 0.248 |
| | Interaction | -0.040 | 0.064 | 0.567 |
| **Endowments** | Risk Preference | -0.010 | 0.010 | 0.457 |
| | Time Preference | 0.008 | 0.012 | 0.529 |
| **Coefficients** | Risk Preference | 0.293 | 0.120 | 0.015** |
| | Time Preference | 0.016 | 0.058 | 0.788 |
| **Interaction** | Risk Preference | 0.024 | 0.026 | 0.369 |
| | Time Preference | 0.004 | 0.016 | 0.792 |

Notes: Probit blinder-oaxaca decomposition model; * p < 0.10, ** p < 0.05, *** p < 0.01.

### 11.5.4 FRUIT

Table 10(a) displays, for the qualitative measures of economic preferences, in our sample, the mean predicted intentions to daily eat fruit are 75.9% for males and 58.5% for females, yielding a disparity in daily intake of fruit intentions being 17.4%, which is statistically significant. The general endowments component was not statistically significant, with only 33.33% (0.058/0.174) of the disparity being attributable to the different distribution of the predictors (endowments). The overall contribution of the coefficients was not statistically significant as well. Neither economic preference was statistically significant. Table 10(b) displays, for the quantitative measures of economic preferences, in our sample, the mean predicted intentions to eat fruit daily is 77.0% for males and 57.8% for females, yielding a disparity in daily intake of fruit intentions of 19.2%,

which is statistically significant. The general endowments and coefficients component were not statistically significant. Similarly, in Table 10(c) for the combined measures of economic preferences, the overall contribution of coefficients was significant at the 10% level where about 80.72% (0.155/0.192) of the disparity was attributed to the differential effect of the covariate entered in the model (coefficients effect) including general effect of unknown factors but neither risk nor time preferences was statistically significant.

**Table 10**. Economic preferences and gender gaps in behavioural intentions to eat fruit

(a) Qualitative preference measures

| **Behavioural Intention** Fruit | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.759 | 0.040 | 0.000*** |
| | Group_2 (Female) | 0.585 | 0.045 | 0.000*** |
| | Difference | 0.174 | 0.060 | 0.004*** |
| | Endowments | 0.046 | 0.040 | 0.259 |
| | Coefficients | 0.088 | 0.081 | 0.278 |
| | Interaction | 0.039 | 0.066 | 0.553 |
| **Endowments** | Risk Preference | -0.000 | 0.005 | 0.662 |
| | Time Preference | 0.015 | 0.031 | 0.640 |
| **Coefficients** | Risk Preference | -0.050 | 0.097 | 0.612 |
| | Time Preference | -0.180 | 0.128 | 0.172 |
| **Interactions** | Risk Preference | 0.002 | 0.006 | 0.715 |
| | Time Preference | 0.047 | 0.044 | 0.287 |

(b) Quantitative preference measures

| **Behavioural Intention** Fruit | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.770 | 0.040 | 0.000*** |
| | Group_2 (Female) | 0.578 | 0.047 | 0.000*** |
| | Difference | 0.192 | 0.062 | 0.002*** |
| | Endowments | 0.058 | 0.039 | 0.138 |
| | Coefficients | 0.153 | 0.075 | 0.043** |
| | Interaction | -0.020 | 0.057 | 0.739 |
| **Endowments** | Risk Preference | -0.010 | 0.009 | 0.380 |
| | Time Preference | 0.021 | 0.016 | 0.193 |
| **Coefficients** | Risk Preference | 0.044 | 0.088 | 0.619 |
| | Time Preference | -0.020 | 0.043 | 0.607 |
| **Interactions** | Risk Preference | 0.006 | 0.012 | 0.646 |
| | Time Preference | -0.010 | 0.019 | 0.552 |

(c) Combined preference measures

| **Behavioural Intention** Fruit | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.770 | 0.048 | 0.000*** |
| | Group_2 (Female) | 0.578 | 0.047 | 0.000*** |
| | Difference | 0.192 | 0.062 | 0.002*** |
| | Endowments | 0.058 | 0.038 | 0.129 |
| | Coefficients | 0.155 | 0.075 | 0.040** |
| | Interaction | -0.020 | 0.056 | 0.719 |
| **Endowments** | Risk Preference | -0.010 | 0.008 | 0.459 |
| | Time Preference | 0.016 | 0.014 | 0.253 |
| **Coefficients** | Risk Preference | 0.042 | 0.122 | 0.732 |
| | Time Preference | -0.040 | 0.061 | 0.529 |
| **Interaction** | Risk Preference | 0.003 | 0.010 | 0.741 |
| | Time Preference | -0.010 | 0.015 | 0.498 |

Notes: Probit blinder-oaxaca decomposition model; * p < 0.10, ** p < 0.05, *** p < 0.01.

### 11.5.5 ALCOHOL

Table 11(a) displays, for the qualitative measures of economic preferences, in our sample, the mean predicted intentions to the consumption of alcohol are 60.0% for males and 71.4% for females, yielding a disparity in consumption of alcohol intentions being -11%, which is statistically significant, suggesting that there were slight differences between males and females in intentions to drink alcohol. The overall contribution of endowments, coefficients and interactions were not statistically significant. Thus, we therefore do not discuss the results of this portion in any detail further. Tables 11(b) and 11(c) displays that the gender disparities are similar, as expected, and shows that risk and time preferences do not play a role in explaining gender gaps in intentions to drink alcohol.

**Table 11**. Economic preferences and gender gaps in behavioural intentions to drink alcohol

(a) Qualitative preference measures

| **Behavioural Intention** Alcohol | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.600 | 0.044 | 0.000*** |
| | Group_2 (Female) | 0.714 | 0.041 | 0.000*** |
| | Difference | -0.110 | 0.061 | 0.060** |
| | Endowments | -0.020 | 0.032 | 0.622 |
| | Coefficients | -0.186 | 0.0819 | 0.315 |
| | Interaction | 0.030 | 0.050 | 0.567 |
| **Endowments** | Risk Preference | 0.003 | 0.010 | 0.786 |
| | Time Preference | -0.030 | 0.030 | 0.316 |
| **Coefficients** | Risk Preference | 0.144 | 0.094 | 0.318 |
| | Time Preference | -0.045 | 0.139 | 0.995 |
| **Interactions** | Risk Preference | -0.000 | 0.010 | 0.794 |
| | Time Preference | 0.000 | 0.049 | 0.995 |

(b) Qualitative preference measures

| **Behavioural Intention** Alcohol | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.617 | 0.045 | 0.000*** |
| | Group_2 (Female) | 0.700 | 0.043 | 0.000*** |
| | Difference | -0.080 | 0.063 | 0.192 |
| | Endowments | 0.002 | 0.027 | 0.929 |
| | Coefficients | -0.090 | 0.070 | 0.186 |
| | Interaction | 0.008 | 0.044 | 0.863 |
| **Endowments** | Risk Preference | 0.004 | 0.015 | 0.811 |
| | Time Preference | -0.000 | 0.010 | 0.986 |
| **Coefficients** | Risk Preference | -0.010 | 0.093 | 0.941 |
| | Time Preference | 0.024 | 0.043 | 0.580 |
| **Interactions** | Risk Preference | -0.000 | 0.011 | 0.942 |
| | Time Preference | 0.013 | 0.021 | 0.538 |

(c) Combined preference measures

| **Behavioural Intention** Alcohol | | **Coefficient** | **Robust Standard error** | **P>\|Z\|** |
|---|---|---|---|---|
| **Overall** | Group_1 (Male) | 0.617 | 0.045 | 0.000*** |
| | Group_2 (Female) | 0.700 | 0.043 | 0.000*** |
| | Difference | -0.080 | 0.063 | 0.190 |
| | Endowments | 0.001 | 0.024 | 0.952 |
| | Coefficients | -0.090 | 0.069 | 0.203 |
| | Interaction | 0.004 | 0.041 | 0.932 |
| **Endowments** | Risk Preference | 0.000 | 0.005 | 0.976 |
| | Time Preference | 0.002 | 0.012 | 0.873 |
| **Coefficients** | Risk Preference | 0.042 | 0.128 | 0.741 |
| | Time Preference | 0.027 | 0.060 | 0.656 |
| **Interaction** | Risk Preference | 0.002 | 0.011 | 0.827 |
| | Time Preference | 0.006 | 0.023 | 0.805 |

Notes: Probit blinder-oaxaca decomposition model; * p < 0.10, ** p < 0.05, *** p < 0.01.

## 12. DISCUSSION

The health-harming (health-protective) behaviours of young adults living in informal urban settlements have the potential to impact the prevalence of non-communicable diseases, which is a major public health concern, thus emphasizing the need to understand the underlying determinants of these behavioural intentions in this particular population. The study's primary aim was to examine the association between the behavioural health intentions of young adults and two economic preferences, i.e. risk preference (risk-taking) and time preference (patience). In addition, the paper looks into how these economic preferences may contribute to explaining the observed gender gaps in behavioural health intentions. This study fills a gap in the literature regarding how

intentions to engage in health-harming and health-protective behaviours may be associated with economic preferences.

**Table 12**. Robust relationship between economic preferences and behavioural health intentions

| Behavioural Intentions | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| **Smoking** | | *Negative*[3] | | | | *Negative*[2] |
| **Exercise** | | | | | | |
| **Breakfast** | | *Negative*[4] | *Negative*[4] | *Negative*[1] | *Negative*[2] | *Negative*[4] |
| **Salts and fat** | | | | | | |
| **Vegetables** | *Positive*[2] | | | | | |
| **Fruit** | *Positive*[2] | *Negative*[2] | | | | |
| **Alcohol** | *Positive*[4] | *Negative*[2] | | | *Positive*[1] | |

Notes: Numeric value of superscript denotes number of consistent results across the four regression models.

Our findings in Table- 12 illustrate that economic preferences are moderately associated with behavioural health intentions as measured in our study. Firstly, the qualitative and combined measures of risk preferences (risk-taking) are positively associated with behavioural health intentions to eat vegetables at least once a day, to eat fruits daily, and to drink alcohol over the next month. This outcome suggests that individuals with a greater propensity towards risk-taking tend to exhibit stronger intentions towards these distinct health behaviours. Further, these results (intentions towards eating vegetables, and fruits) are contradictory to a priori expectations. A plausible explanation includes the possibility that individuals who have tendencies for risk-taking and consume unhealthy foods, such as sweetened carbonated beverages, may have a stronger intention to, at the same time, consume health-protective foods like fruits, and vegetables. This may be because they believe that these healthy foods can offset the negative effects of their unhealthy dietary habits, reducing their risk of adverse health outcomes. As mentioned, the quantitative measure of risk-taking was negatively associated with breakfast consumption intentions. This result, as pointed out above, is somewhat contradictory, but a reasonable explanation may exist. For example, an individual with risk-seeking tendencies (e.g. high intentions to smoke cigarettes) may have weakened intentions to eat breakfast, as the former intention could potentially decrease their appetite for the latter. While there is currently no literature on behavioural health intentions to support this claims, further research is needed to investigate these associations. Importantly, these inconsistent relationships observed in our study may also be due to measurement issues or the omission of essential constructs from the conceptual framework, as will be further discussed below.

A prominent finding in our study was the association of time preferences or patience with behavioural health intentions. We found that patience was negatively associated with behavioural intentions to smoke, to eat breakfast, to eat fruit, and to drink alcohol. This result was contradictory to our expectations, as we would typically anticipate patience to be positively associated with intentions to consume breakfast, and fruit. However, one potential explanation could be that individuals with high levels of patience may more likely delay their intentions to consume breakfast, and fruit until a later time. In other words, they may be willing to wait longer before intending to eat breakfast or may postpone their intentions to eat fruit until later in the day. This delay could lead to a temporary decrease in their intentions to consume breakfast, and fruit. Thus, individuals who are more patience are less likely to exhibit intentions towards these distinct health behaviours. Moreover, individuals exhibiting higher levels of patience are less likely have intentions to engage in impulsive health-harming behaviours. They are more likely to consider the potential negative consequences of intending to smoke or drink. Consequently, they may have weaker intentions to smoke cigarettes and to drink alcohol. While this finding appears plausible for intentions to smoke, and to drink alcohol, it may seem less convincing when it comes to intentions to consume breakfast, and fruit. These results highlight the importance of taking measurement issues into account (more on this later). However, from our study's findings and the context, it can be inferred that an individual's level of patience has a stronger association with their intentions to engage in health-related behaviours than their propensity for risk-taking. Although there is a lack of prior research on behavioural intentions and time preferences, this finding was somewhat consistent with the relationship found between observed health behaviours and time preferences (e.g. Alashoor and Han., 2020; Jusot and Khlat, 2013)

The decomposition analysis in our study shows notable gender disparities in behavioural health intentions for most behaviours. Specifically, the study identified statistically significant gender gaps between males and females in their intentions to smoke cigarettes, exercise, eat breakfast, consume foods high in salt and fat, eat vegetables, and in eat fruit. The gender gap in intentions to drink alcohol was not statistically significant. Overall, our study suggests that males have stronger intentions towards health-harming behaviours than females. This is evidenced by males exhibiting greater intentions to smoke than females. These results thus imply that, in general, females have better behavioural health intentions than males, with a higher likelihood of intending to engage in health-protective behaviours and lower likelihood of intending to engage in health-harming behaviours.

We also observe that disparities in economic preferences due to endowments alone cannot entirely account for the observed gender gap in health behavioural intentions. This implies that unexplained factors, such as the coefficients effect, are contributing to this gap. The impact of differences in covariates in the model, denoted by coefficients, was found to explain variations in behavioural intentions between males and females. In Table 13, the results indicate that there was no significant contribution by endowments for any of the measures of economic preferences and behavioural health intentions.

**Table 13**. Contribution of endowments of economic preferences to gender gaps in behavioural health intentions

| Behavioural Intentions | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| **Smoking** | -0.002 | 0.007 | 0.006 | 0.031 | 0.007 | 0.730 |
| **Exercise** | 0.001 | -0.01 | -0.00 | 0.004 | -0.000 | 0.003 |
| **Breakfast** | | | | | | |
| **Salts and fat** | 0.002 | -0.020 | -0.010 | 0.008 | -0.010 | 0.008 |
| **Vegetables** | | | | | | |
| **Fruit** | -0.000 | 0.015 | -0.010 | 0.021 | -0.010 | 0.016 |
| **Alcohol** | 0.003 | -0.030 | 0.004 | -0.000 | 0.000 | 0.002 |

Our analysis reveals that the gender gap cannot be attributed to significant differences in risk or time preferences resulting from endowments. The evidence rather suggests that only differences in economic preferences attributable to coefficients are contributing to the gender gap. The coefficients that contribute to differences in behavioural health intentions between males and females, while controlling for disparities in observable characteristics (endowments effect) and taking into consideration the influence of unobservable factors or discrimination (coefficients effect) are presented in Table 14. Notably, gender disparities in coefficients for economic preferences were only found to significantly contribute to gender gaps in intentions to smoke, and eat salty/fatty foods. As previously acknowledged, this implies that there may be a problem with the way these preferences were measured or some important factors that were not considered that could explain these gaps. Further, we find that gender differences in the extent to which patience influenced smoking intentions may contribute to the gender gap in smoking intentions. Specifically, unobservable factors, such as social norms, stereotypes and biases, may contribute to this disparity in patience between the groups, however, it is unclear what accounts for the above results, and more research is needed to examine the consistency of the findings and explore possible explanations. Addressing gender disparities in health-related behavioural intentions requires a multifaceted approach, which may involve educating and raising awareness about the

benefits and consequences of various health-harming and health-protective behaviours, while considering both economic preferences and non-economic /factors.

**Table 14**. Contribution of coefficients of economic preferences to gender gaps in behavioural health intentions

| Behavioural Intentions | Qualitative Measure | | Quantitative Measure | | Combined Measure | |
|---|---|---|---|---|---|---|
| | Risk Preference | Time Preference | Risk Preference | Time Preference | Risk Preference | Time Preference |
| **Smoking** | -0.046 | -0.106 | -0.017 | -0.076** | 0.036 | -0.092* |
| **Exercise** | 0.11 | -0.15 | -0.050 | 0.002 | -0.020 | -0.000 |
| **Breakfast** | | | | | | |
| **Salts and fat** | -0.040 | -0.004 | 0.227*** | 0.014 | 0.293** | 0.016 |
| **Vegetables** | | | | | | |
| **Fruit** | -0.050 | -0.180 | 0.044 | -0.020 | 0.042 | -0.040 |
| **Alcohol** | 0.094 | -0.000 | -0.010 | 0.024 | 0.042 | 0.027 |

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01.

Previous studies have examined the relationship between health behaviours, especially those related to risky lifestyles, with economic preferences such as risk attitudes and delay discounting (e.g. Dave & Saffer, 2008; Amlung et al., 2017, Barlow et al., 2016/2017). There has been no such investigation into how behavioural health intentions may be associated with economic preferences that drive such health-harming and health-protective behaviours. Therefore, this study has made a number of **contributions** to the literature in this area, including analysing the behavioural intentions among young adults, providing valuable insights into how behavioural health intentions may be associated with their risk-taking and patience. The focus on young adults is particularly significant due to the elevated prevalence of risky health behaviours among this sub-population. By highlighting the role of gender differences in economic preferences on health-related behavioural intentions, this study also emphasizes the necessity for tailored interventions that cater to the unique preferences and requirements of various demographic groups. Additionally, the comprehensive analysis and diverse methodology employed in the study augment the growing body of research on the complex interplay between economic preferences, behavioural intentions, and health behaviours. This contributes to a more nuanced understanding of the factors that influence the health-related behavioural intentions of young adults.

It is important to acknowledge that our sample consists of young adults who may face economic restrictions, which can significantly impact their decision-making processes, behavioural health intentions and health behaviours. While control variables are included in the analysis, it is worth noting that the absence of a specific income variable may limit our understanding of the influence of financial barriers on health intentions. The decisions related to consuming breakfast, fruits, and

vegetables may not solely reflect deliberate choices but could be influenced by various circumstances, such as affordability and availability. This could potentially mask the expected relationships between risk attitudes, time preferences, and these specific behavioural health intentions. Considering these limitations, it is essential for future studies to interpret these results in relation to the specific contextual factors that may influence the observed outcomes, such as socioeconomic status and community characteristics. Importantly, exploring the potential interactions between financial constraints, situational factors, and individual preferences would provide valuable insights into the nuanced nature of decision-making regarding health behaviours.

Importantly, while our study utilized global weights to construct the combined measures, we acknowledge that country-specific weights would offer a more nuanced understanding of the data. The use of global weights assumes that the relative importance of different variables or factors contributing to the combined measures is consistent across all countries. This may not always be the case, as cultural, social, and economic contexts can vary significantly from one country to another. By employing country-specific weights, we would be able to account for these variations and better capture the unique characteristics and priorities of each country. Acknowledging these limitations prompts the need for future studies to incorporate country-specific weights, ensuring a more accurate understanding of the measures within distinct contexts.

While our study has contributed to the understanding of the complex factors that influence behavioural health intentions, this work can serve as an important foundation for future investigations. In particular, it is advised that our study be replicated to examine not only the relationship between economic preferences and behavioural health intentions but also their association with both present and past behaviours. Moreover, future research should look at extending our study by including omitted constructs or variables that we believe can provide a more comprehensive explanation of the association between economic preferences and behavioural intentions to engage in health-related behaviours. For example, exploring social and environmental factors that may have a greater impact on predicting behavioural intentions for specific health behaviours, such as exercise. An example for each factor, such as social support from friends and family members and access to safe and convenient exercise facilities, such as a safe neighbourhood or parks can have a significant impact on an individual's intention to exercise regularly. Such an approach would allow researchers to gain a deeper understanding of how economic preferences influence behavioural health intentions, and thus offer valuable insights into strategies for promoting sustained behaviour change. In order to overcome the limitation of relying solely on evidence concerning economic preferences and observed health behaviours, instead of

behavioural health intentions, future studies should measure both intentions and actual behaviours. Structural equation modelling can be employed to analyse both observed and latent variables and asses the direct and indirect effects of economic preferences on both outcomes. By doing so, researchers can determine whether economic preferences influence behaviour via behavioural intentions, and also identify other factors that may moderate or mediate this particular relationship.

Future research can also explore the role of economic preferences in predicting behavioural health intentions among heterogenous populations, including those with varying socioeconomic backgrounds and cultural contexts. Understanding the distinct factors that influence the behavioural health intentions of different populations can inform the development of targeted interventions. Introducing commitment devices among young adults could be a viable intervention strategy as seen for adults (Rogers et al., 2014). Commitment devices, such as setting personal goals and sharing them with others to provide support and accountability, are low-cost interventions that can strengthen the commitment of individuals towards health-protective behavioural intentions. An example for a commitment device for exercise is to find an exercise partner who shares similar fitness goals, such as exercising at least three times a week. This creates a social commitment that can offer support and accountability towards achieving exercising intentions. However, further research is needed to develop and evaluate such interventions. Ultimately, our study underscores the need for a more nuanced understanding of the complex interplay between sex, economic preferences, and behavioural health intentions, including the need to conduct further research on this important topic.

## 13. CONCLUSION

Health-related behavioural intentions are increasingly drawing the attention of practitioners and academics. Nevertheless, evidence from previous studies indicate that health behaviours, and health behavioural intentions in particular, remain a complex phenomenon that requires further examination to be better understood, especially amongst the most vulnerable populations. This study conducted multivariate regression analysis, examining the associations between seven behavioural health intentions and two economic preferences, presented these associations and investigated subsequent gender disparities and how economic preferences may explain these gender gaps in behavioural intentions.

The study highlights the importance of recognizing the limitations inherent in studying economic preferences using imperfect measures. The findings shed light on the challenges associated with

accurately capturing and assessing individuals' economic preferences, which can impact the validity and reliability of the results. By acknowledging these limitations, the study calls for further research to use more refined and reliable measures of economic preferences when investigating their relationship with behavioural health intentions.

Future research must therefore carefully consider measurement issues. While observable differences in economic preferences do not fully explain the gender gap, other factors such as social norms and biases may contribute to these observed gender gaps. Consequently, it is incumbent upon future research endeavours to delve deeper and further explore the explanations for and implications of the findings from this particular study.

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# ANNEXURES

## A

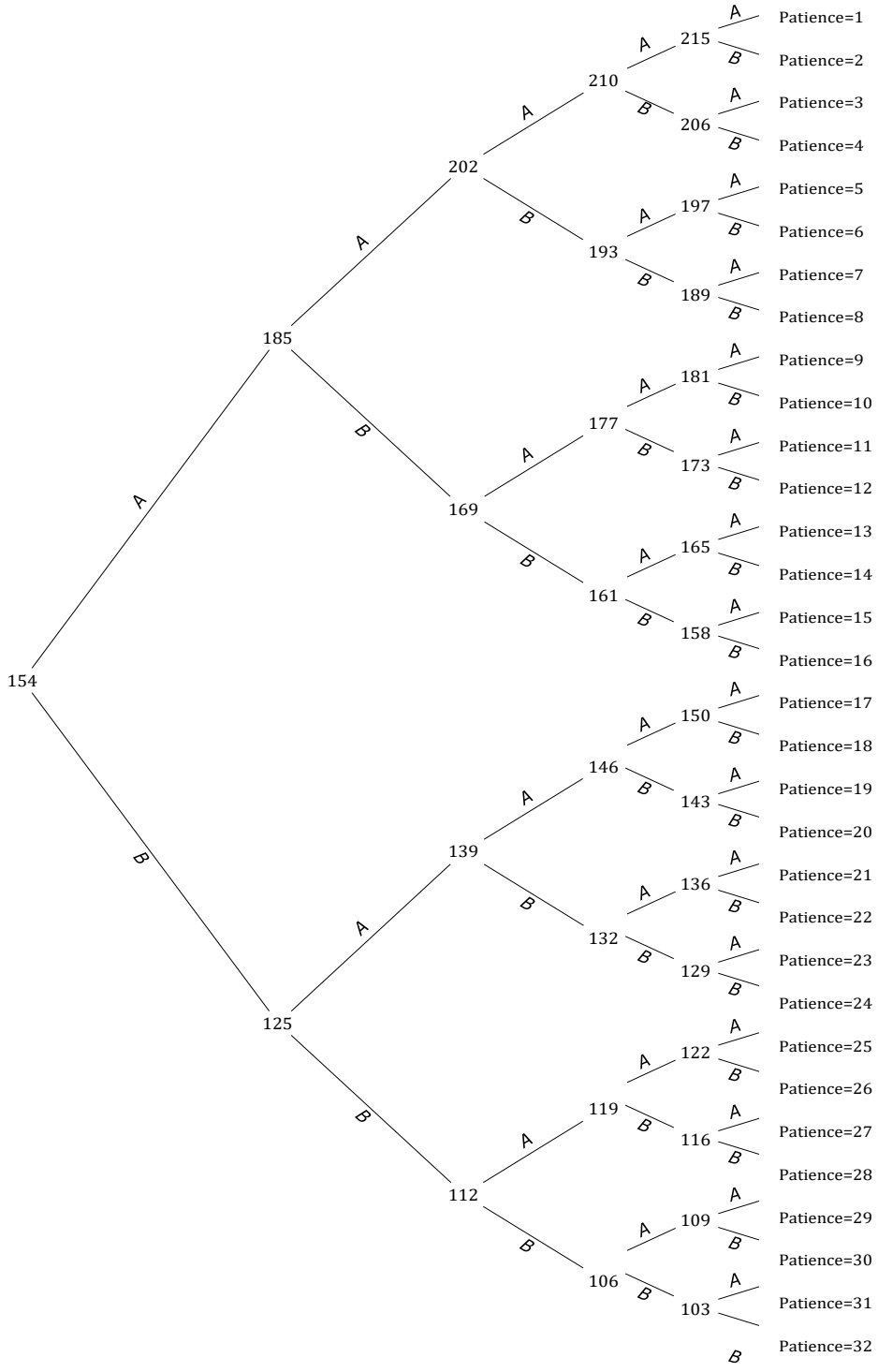



Figure 6 Tree for the staircase time task (numbers = payment in 12 months, A = choice of "100 euros today", B = choice of "*x* euros in 12 months". The staircase procedure worked as follows. First, each respondent was asked whether they would prefer to receive 100 euros today or 154 euros in 12 months from now (leftmost decision node). In case the respondent opted for the payment today ("A"), in the second question the payment in 12 months was adjusted upwards to 185 euros. If, on the other hand, the respondent chose the payment in 12 months, the corresponding payment was adjusted down to 125 euros. Working further through the tree follows the same logic.

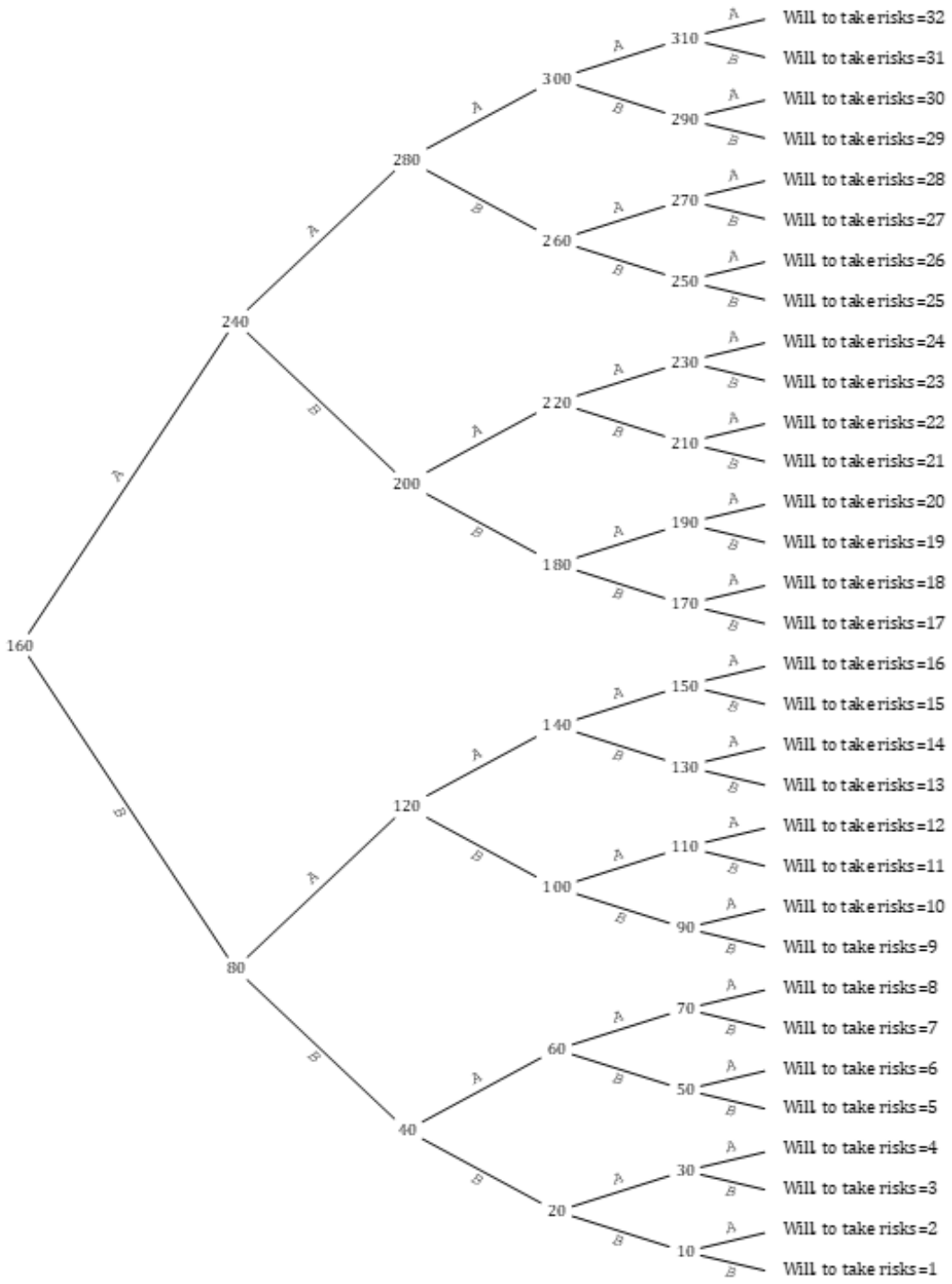



Figure 7 Tree for the Staircase risk task (numbers = sure payment, A = choice of lottery, B = choice of sure payment). The Staircase procedure worked as follows. First, each respondent was asked whether they would prefer to receive 160 euros for sure or whether they preferred a 50:50 chance of receiving 300 euros or nothing. In case the respondent opted for the safe choice ("B"), the safe amount of money being offered in the second question decreased to 80 euros. If, on the other hand, the respondent opted for the gamble ("A"), the safe amount was increased to 240 euros. Working further through the tree follows the same logic.

## ANNEXURE-B

**Table B**. Spearman correlation for measures of economic preferences

| | Risk-taking | | | Patience | | |
|---|---|---|---|---|---|---|
| | Qualitative | Quantitative | Combined | Qualitative | Quantitative | Combined |
| Qual Risk | 1 | | | | | |
| Quan Risk | -0.0485 | 1 | | | | |
| Combined Risk | 0.297*** | 0.939*** | 1 | | | |
| Qual Patience | 0.176** | -0.101 | -0.0361 | 1 | | |
| Quan Patience | 0.0230 | 0.0221 | 0.0290 | -0.0376 | 1 | |
| Combined Patience | 0.0440 | 0.00995 | 0.0246 | 0.0821 | 0.993*** | 1 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

**ANNEXURE- C**

# *YOUNG ADULT SURVEY QUESTIONNAIRE*

# *UNIVERSITY OF THE FREE STATE AND WITWATERSRAND*

**INTERVIEW PARTICULARS**:

| GIVING task<br><br>- INCREASING SOCIAL DISTANCE - | TAKING task<br><br>- INCREASING SOCIAL DISTANCE - |
|---|---|

**Questionnaire number**:

**Name of field worker**:_____

**Date of interview**:

| | Day | Month | Year | |
|---|---|---|---|---|
| | | | *2018* | |

**Time interview started**:

| | |
|---|---|
| | : |

RECRUITMENT INSTRUCTIONS

**Note**: Please list the first names of all the young adults in the household who are [**MALE** – *if you are interviewing male respondents*; **FEMALE** – *if you are interviewing female respondents*] and **18-24 years old**, from oldest (top) to youngest (bottom).

| No | First name<br><br>(from oldest to youngest) | Selected respondent<br><br>(refer Kish grid) | Interviewed respondent |
|---|---|---|---|
| 1. | | Y N | Y N |
| 2. | | Y N | Y N |
| 3. | | Y N | Y N |
| 4. | | Y N | Y N |
| 5. | | Y N | Y N |
| 6. | | Y N | Y N |
| 7. | | Y N | Y N |
| 8. | | Y N | Y N |

**Procedure**: First, list the individuals meeting the criteria described above. Then, if there is more than one young adult in the household, select one of these persons using the Kish selection grid on the next page. Circle the 'Y' for 'YES' next to this person's name in the second column of the table. Then locate the selected person on the roster before obtaining written informed consent from this person (refer information sheet and consent form). If the selected respondent is not present for the interview or refuse to be interviewed and there are two or more people on the list, first approach the person immediately ABOVE the selected person on the list for an interview and then, if this person is not available or refuse, the next person above, etc. If there are no more persons above, but someone below the originally selected person, then sequentially select the people BELOW, starting with the person directly below. Now circle the 'Y' for 'YES' next to the actual respondent's name in the third column of the table. If there is no young adult in the household or none of the young adults are available for an interview and/or refused to be interviewed, proceed to the next household and repeat the process.

# KISH SELECTION GRID

**GRID TO SELECT RESPONDENT**

| NUMBER OF QUESTION-NAIRE | | | | NUMBER OF PERSONS FROM WHICH RESPONDENT MUST BE DRAWN | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1 | 26 | 51 | 76 | 1 | 1 | 1 | 3 | 2 | 4 | 1 | 3 | 5 | 8 | 6 | 5 | 12 | 10 | 1 | 6 | 8 | 7 | 19 | 19 | 13 | 21 | 13 | 24 | 25 |
| 2 | 27 | 52 | 77 | 1 | 2 | 3 | 4 | 3 | 1 | 2 | 2 | 3 | 4 | 8 | 3 | 7 | 2 | 5 | 14 | 4 | 15 | 4 | 8 | 6 | 16 | 14 | 22 | 19 |
| 3 | 28 | 53 | 78 | 1 | 1 | 2 | 1 | 4 | 2 | 7 | 6 | 9 | 3 | 5 | 11 | 2 | 1 | 3 | 11 | 7 | 10 | 16 | 16 | 10 | 5 | 2 | 2 | 3 |
| 4 | 29 | 54 | 79 | 1 | 2 | 3 | 2 | 1 | 3 | 5 | 8 | 6 | 2 | 4 | 2 | 4 | 8 | 11 | 10 | 16 | 6 | 9 | 10 | 15 | 11 | 12 | 11 | 18 |
| 5 | 30 | 55 | 80 | 1 | 1 | 1 | 4 | 5 | 6 | 3 | 5 | 7 | 5 | 9 | 8 | 13 | 3 | 2 | 13 | 5 | 18 | 1 | 4 | 1 | 20 | 11 | 5 | 24 |
| 6 | 31 | 56 | 81 | 1 | 2 | 2 | 2 | 3 | 5 | 7 | 7 | 8 | 7 | 1 | 4 | 9 | 14 | 8 | 2 | 17 | 17 | 14 | 12 | 14 | 22 | 10 | 3 | 14 |
| 7 | 32 | 57 | 82 | 1 | 2 | 1 | 1 | 4 | 1 | 4 | 1 | 4 | 6 | 3 | 6 | 5 | 7 | 13 | 9 | 2 | 3 | 13 | 14 | 8 | 2 | 7 | 20 | 4 |
| 8 | 33 | 58 | 83 | 1 | 1 | 2 | 3 | 2 | 5 | 1 | 4 | 2 | 1 | 7 | 10 | 6 | 5 | 4 | 15 | 10 | 5 | 2 | 13 | 4 | 17 | 5 | 17 | 8 |
| 9 | 34 | 59 | 84 | 1 | 1 | 3 | 2 | 5 | 6 | 2 | 2 | 1 | 9 | 10 | 1 | 10 | 4 | 6 | 6 | 1 | 9 | 10 | 1 | 5 | 6 | 9 | 1 | 12 |
| 10 | 35 | 60 | 85 | 1 | 2 | 2 | 4 | 1 | 3 | 3 | 6 | 9 | 10 | 11 | 12 | 3 | 9 | 15 | 7 | 8 | 11 | 6 | 3 | 9 | 4 | 3 | 10 | 1 |
| 11 | 36 | 61 | 86 | 1 | 1 | 1 | 3 | 1 | 4 | 5 | 3 | 1 | 6 | 2 | 9 | 13 | 11 | 14 | 4 | 11 | 4 | 15 | 15 | 17 | 1 | 1 | 23 | 2 |
| 12 | 37 | 62 | 87 | 1 | 2 | 3 | 1 | 3 | 2 | 7 | 5 | 6 | 5 | 7 | 7 | 8 | 6 | 10 | 3 | 3 | 1 | 12 | 20 | 7 | 13 | 22 | 12 | 16 |
| 13 | 38 | 63 | 88 | 1 | 1 | 2 | 1 | 5 | 3 | 6 | 4 | 3 | 4 | 6 | 2 | 11 | 13 | 12 | 1 | 15 | 8 | 7 | 2 | 12 | 15 | 21 | 13 | 7 |
| 14 | 39 | 64 | 89 | 1 | 2 | 3 | 2 | 4 | 1 | 4 | 7 | 8 | 2 | 5 | 6 | 11 | 12 | 9 | 16 | 13 | 16 | 11 | 18 | 18 | 14 | 16 | 18 | 23 |
| 15 | 40 | 65 | 90 | 1 | 2 | 1 | 4 | 2 | 4 | 3 | 8 | 7 | 7 | 11 | 1 | 3 | 5 | 7 | 12 | 14 | 13 | 8 | 17 | 20 | 19 | 20 | 19 | 11 |
| 16 | 41 | 66 | 91 | 1 | 1 | 3 | 3 | 1 | 6 | 5 | 1 | 5 | 9 | 10 | 3 | 2 | 11 | 13 | 8 | 12 | 12 | 5 | 6 | 21 | 8 | 8 | 4 | 15 |
| 17 | 42 | 67 | 92 | 1 | 1 | 2 | 2 | 3 | 4 | 2 | 6 | 2 | 3 | 2 | 12 | 5 | 2 | 10 | 13 | 5 | 8 | 18 | 9 | 16 | 10 | 17 | 16 | 20 |
| 18 | 43 | 68 | 93 | 1 | 2 | 1 | 4 | 2 | 6 | 4 | 1 | 4 | 8 | 9 | 10 | 7 | 9 | 3 | 12 | 12 | 9 | 7 | 20 | 19 | 9 | 19 | 21 | 13 |
| 19 | 44 | 69 | 94 | 1 | 2 | 2 | 1 | 3 | 5 | 2 | 8 | 9 | 10 | 4 | 9 | 8 | 13 | 1 | 1 | 14 | 10 | 19 | 10 | 11 | 18 | 15 | 7 | 6 |
| 20 | 45 | 70 | 95 | 1 | 1 | 3 | 2 | 5 | 4 | 1 | 3 | 8 | 1 | 3 | 8 | 6 | 6 | 9 | 5 | 7 | 13 | 4 | 15 | 1 | 7 | 22 | 15 | 21 |
| 21 | 46 | 71 | 96 | 1 | 1 | 1 | 2 | 5 | 1 | 7 | 2 | 3 | 2 | 1 | 11 | 4 | 7 | 5 | 3 | 2 | 1 | 3 | 12 | 18 | 5 | 19 | 14 | 9 |
| 22 | 47 | 72 | 97 | 1 | 2 | 1 | 3 | 1 | 3 | 2 | 6 | 2 | 1 | 8 | 7 | 1 | 4 | 2 | 11 | 8 | 2 | 17 | 4 | 17 | 21 | 16 | 3 | 5 |
| 23 | 48 | 73 | 98 | 1 | 2 | 3 | 4 | 2 | 2 | 6 | 7 | 7 | 8 | 3 | 4 | 9 | 3 | 6 | 2 | 11 | 11 | 16 | 2 | 8 | 11 | 23 | 6 | 22 |
| 24 | 49 | 74 | 99 | 1 | 1 | 2 | 1 | 4 | 6 | 3 | 5 | 5 | 3 | 1 | 5 | 13 | 1 | 14 | 8 | 14 | 6 | 15 | 9 | 14 | 3 | 6 | 9 | 17 |
| 25 | 50 | 75 | 100 | 1 | 1 | 2 | 3 | 3 | 2 | 4 | 6 | 4 | 7 | 5 | 3 | 12 | 12 | 12 | 4 | 6 | 2 | 17 | 11 | 2 | 12 | 4 | 8 | 10 |

# INFORMATION SHEET

**YOUNG ADULT SURVEY**

The universities of the Free State and the Witwatersrand are jointly conducting research on the association between economic and social preferences and the health behaviour of young adults from urban informal settlements in Bloemfontein. For this purpose, the research team will interview young adults in this community. The interviews will take approximately 60 minutes. There are no known risks to you participating in this study. You will benefit financially from this research insofar as everyone who answers the survey will receive R50 to compensate them for their time. There are no other direct benefits to you from participating in this study. You will not be penalised if you refuse to participate or if you withdraw from the study before answering all the questions. We will be recording your name and cell phone number together with some other people's names and contact details when answering some specific questions. Your responses therefore are only partly anonymous. In the data though you will only be identified by a number. This data will be safely and securely stored. Findings from our study may be published, but the answers will be averaged together with the responses from all other people and you will not be identified by name. You can contact the following people in case you have any questions that we cannot answer:

**Diyunivesithi ya Foreistata le ya Witwatersrand mmoho di etsa dipatlisiso mabapi le kamano e pakeng tsa dikgahleho tsa semoruo le botjhaba le boitshwaro ba bophelo bo botle ba batjha ho tswa dikahelo tsa makeishene a diteropo a Bloemfontein. Bakeng sa sena, sehlopha sa diphuputso se tla botsa batjha dipotso ba dulang dibakeng tsena. Dipotso tsena di tla nka nako e ka bang metsotso e 60. Ha hona dikotsi tse tsejwang tsa ho nka karolo phuputsong ena. O tla una molemo wa tjhelete ho tswa phuputsong ena jwalo ka mang le mang ya arabang dipotso ya tla fumana R50 ho ba leboha bakeng sa nako ya bona. Ha hona melemo e meng e otlollohileng ho wena bakeng sa ho nka karolo phuputsong ena. O ke ke wa fuwa kotlo haeba o hana ho nka karolo kapa haeba o ka ikgula phuputsong pele o araba dipotso kaofela. Re tla be rekota lebitso la hao le nomoro ya selefounu hammoho le mabitso le dintlha tsa boiteanyo tsa batho ba bang ha o araba dipotso tse itseng. Kahoo dikarabo tsa hao ke tsa sephiri ka karolo e itseng feela. Empa ho datha o tla tsebahatswa ka nomoro feela. Datha e tla bolokwa ka polokeho le ka tshireletseho. Diphumano ho tswa ho phuputso ya rona di ka nna tsa hatiswa, empa dikarabo di tla kopanngwa le dikarabo tsa batho ba bang bohle mme o ke ke wa tsebahatswa ka lebitso. O ka iteanya le batho ba latelang haeba o na le dipotso tse re sa kgoneng ho di araba:**

Information about the research / **Tlhahisoleseding mabapi le patlisiso**:

051 - 401 9196 (Dr Sevias Guvuriro)

Complaints and problems, and questions regarding your rights as a research subject / **Ditletlebo le mathata, le dipotso mabapi le ditokelo tsa hao jwalo ka monkakarolo wa patlisiso**:

051 - 401 9064

# CONSENT FORM

**RESPONDENT:**

I /**Nna**, .....

[RESPONDENT'S FULL NAMES]

- have understood the information above / **ke utlwisisitse tlhahisoleseding e kahodimo**;
- was given a chance to ask questions / **ke fuwe monyetla wa ho botsa dipotso**;
- have received a copy of this form / **ke fumane khopi ya foromo ena**.

| | |
|---|---|
| Yes | No |
| Yes | No |
| Yes | No |

Respondent's signature: Date:

_____ _____

**FIELDWORKER:**

I, .....

[FIELDWORKER'S FULL NAMES]

- explained the study to the respondent;
- answered all the questions of the respondent regarding the study;
- gave the respondent a copy of this form.

| | |
|---|---|
| Yes | No |
| Yes | No |
| Yes | No |

Signature of fieldworker: Date:

_____ _____

# PART A

## SECTION A: SOCIODEMOGRAPHICS

| | | | |
|---|---|---|---|
| **1.** | How old were you at your last birthday? / **O ne o le dilemo tse kae ka letsatsi la hao la tswalo le fetileng?** | Y Y<br>[age in completed years] | |
| | [*fieldworker: record age in the spaces*] | | |
| | | | |
| **2.** | What is your gender? **Bong ba hao ke eng?** | Male / **Motona** | 1 |
| | | Female / **Motshehadi** | 2 |
| | [*fieldworker: do not read out the options; circle ONE option only*] | | |
| | | | |
| **3.** | What is your current marital status? **Maemo a hao a lenyalo ha jwale ke afe?** | Married / **Nyetse or nyetswe** | 1 |
| | | Living with partner / **O dula le molekane** | 2 |
| | | Widowed / **Mohlolohadi** | 3 |
| | | Divorced or separated / **Hladile/hladilwe kapa arohane** | 4 |
| | | Never married / **Ha o eso nyale/nyalwe** | 5 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options; circle ONE option only*] | | |
| | | | |
| **4.** | What is your highest completed level of education? **Boemo ba hao ba thuto bo hodimo ho fetisisa bo phethetsweng ke bofe?** | None | 1 |
| | | Primary (grade 1-7) | 2 |
| | | Some secondary (grade 8-11) | 3 |
| | | Grade 12 | 4 |
| | | Diploma or degree | 5 |
| | | Other (specify): | 6 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: do NOT read out the options*; *circle ONE option only*] | | |
| | | | |
| **5.** | How would you describe your current employment situation? **O ka hlalosa boemo ba hao ba khiro hajwale jwang?** | Student or learner / **Moithuti kapa ngwana sekolo** | 1 |
| | | Unemployed / **Ha ke sebetse** | 2 |
| | | Employed / **Kea sebetsa** | 3 |
| | | Other (specify): | 4 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options*; *circle ONE option only*] | | |

# SECTION B: HEALTH STATUS

| | | | |
|---|---|---|---|
| **6**. | How would you describe your health at present? Would you say it is excellent, very good, good, fair, or poor? / **O ka hlalosa bophelo ba hao bo botle ba hajwale ka mokgwa ofe? Na o ka re bo botle ka ho fetisisa, bo botle haholo, bo botle, bo mahareng kapa bo a fokola?** | Excellent / **Bo botle ka ho fetisa** | 1 |
| | | Very good / **Bo botle haholo** | 2 |
| | | Good / **Bo botle** | 3 |
| | | Fair / **Bo mahareng** | 4 |
| | | Poor / **Bo a fokola** | 5 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options; circle ONE option only*] | | |

## SECTION C: EMOTIONAL WELLBEING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **7**. | We would like to know how your general well-being has been over the past week. I am going to read a list of some of the ways you may have felt or behaved during the last week. Please indicate how often you have felt this way during the past week. / **Re ka rata ho tseba hore bophelo ba hao ka kakaretso bo ne bo le jwang bekeng e fetileng le ho feta. Ke tlo bala lenane la tse ding tsa ditsela tseo o ka beng o di utlwile kapa o itshwere ka tsona bekeng e sa tswa feta. Ka kopo bontsha hore ke ka makgetlo a makae o ikutlwileng ka mokgwa ona.** | | | | | | |
| | | Rarely or none of the time (less than 1 day) / **Ho a tshohela kapa ha ho ke ho etsahala (ka tlase ho letsatsi le le 1)** | Some or little of the time (1-2 days) / **Ka nako e nngwe kapa e nyane (letsatsi le le 1-2)** | Occasionally or a moderate amount of time (3-4 days) / **Nakong e itseng kapa mahareng (matsatsi a 3-4)** | All of the time (5-7 days) / **Nako kaofela (matsatsi a 5-7 )** | Don't know | Refused |
| **a**. | I was bothered by things that usually don't bother me / **Ken e ke kgathaditswe ke dintho tse sa nkeng di nkgathatsa** | 1 | 2 | 3 | 4 | 98 | 99 |
| **b**. | I had trouble keeping my mind on what I was doing / **Ke bile le bothata ho beha monahano wa ka nthong eo ke neng ke e etsa** | 1 | 2 | 3 | 4 | 98 | 99 |
| **c**. | I felt depressed / **Ke ikutlwile ke tshwenyehile** | 1 | 2 | 3 | 4 | 98 | 99 |
| **d**. | I felt that everything I did was an effort / **Ke utlwile hore ntho e nngwe le e nngwe eo ke e entseng e ne e le boikgathatso** | 1 | 2 | 3 | 4 | 98 | 99 |
| **e**. | I felt hopeful about the future / **Ke utlwile ke na le tshepo ka bokamoso** | 1 | 2 | 3 | 4 | 98 | 99 |
| **f**. | I felt fearful / **Ke utlwile ke tshohile** | 1 | 2 | 3 | 4 | 98 | 99 |
| **g**. | My sleep was restless / **Ke ne ke hlobaela** | 1 | 2 | 3 | 4 | 98 | 99 |
| **h**. | I was happy / **Ke ne ke thabile** | 1 | 2 | 3 | 4 | 98 | 99 |
| **i**. | I felt lonely / **Ke utlwile ke hlorile** | 1 | 2 | 3 | 4 | 98 | 99 |
| **j**. | I could not "get going" / **Ha ke a kgona ho etsa ho hona** | 1 | 2 | 3 | 4 | 98 | 99 |
| | [fieldworker: *please circle ONE option only in each row*] | | | | | | |

# SECTION D: SUBJECTIVE WELLBEING

| | | |
|---|---|---|
| **8.** | Using a scale of 1 to 10 where 1 means "Very dissatisfied" and 10 means "Very satisfied", how do you feel about your life as a whole right now? You can use any number between 0 and 10 to indicate where you fall on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. / **O sebedisa sekala sa 1 ho isa ho 10 moo 1 e bolelang "Ho sa kgotsofala haholo" mme 10 e bolelang "Ho kgotsofala haholo", O ikutlwa jwang ka bophelo ba hao kaofela hona jwale? O ka sebedisa nomoro efe kapa efe e pakeng tsa 0 le 10 ho supa hore na o wela kae sekaleng, o sebedisa** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, kapa 10. | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>98<br>99 |
| | [*fieldworker: circle ONE option only; if respondent does not know circle '98'; if refused circle '99'*] | |
| | | |
| **9.** | Think of this ladder as showing where people stand in South Africa. At the top of the ladder are the people who are best off – those who have the most money, the best education, and the most respected jobs. At the bottom are the people who are worst off – those who have the least money, the least education, and the least respected job or no job. The higher up you are on this ladder, the closer you are to the people at the top; the lower you are, the closer you are to the people at the bottom. Where would you place yourself on this ladder at this time of your life relative to other people in South Africa? You can use any number between 0 and 10 to indicate where you fall on the ladder, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. / **Nahana ka leri ena jwalo ka ha eka e bontsha moo batho ba emeng teng Afrika Borwa. Bokahodimong ba leri ke batho ba phelang hantle ho fetisisa – ba nang le tjhelete e ngata ho fetisisa, thuto e ntle ho fetisisa, le mesebetsi e hlontjhwang haholo ho fetisisa. Ka tlase ke batho ba phelang ka thata ho fetisisa – ba nang le tjhelete e nyane ho fetisisa, thuto e tlase ho fetisisa, le mesebetsi e sa hlonthjuweng ho hang kapa ba sa sebetse. Ha o le hodimo lering ena, o haufi ho fetisisa ho batho ba leng kahodimo; ha o le tlase, o haufi le batho ba leng tlase. O ka ipeha kae lering ee ka nako ee ya bophelo ba hao ha ho bapiswa le batho ba bang Afrika Borwa? O ka sebedisa nomoro efe kapa efe e pakeng tsa 0 le 10 ho supa hore na o wela kae lering, o sebedisa** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, kapa 10. | <br> | 10<br>9<br>8<br>7<br>6<br>5<br>4<br>3<br>2<br>1<br>98<br>99 |
| | [*fieldworker: circle ONE option only; if respondent does not know circle '98'; if refused circle '99'*]] | |

## SECTION E: BEHAVIOURAL INTENTIONS

| 10. | To what extent do you intend to do the following over the next month? / **Ke ka botebo bo bokae o rerileng ho etsa tse latelang kgweding e tlang?** | 1 = Definitely do not intend to do this / **Kannete ha kea rera ho etsa sena**) | | | | | | 7 = Definitely intend to do this / **Kannete ke rerile ho etsa sena** | Don't know | Refused |
|---|---|---|---|---|---|---|---|---|---|---|
| | a. Smoke cigarettes on a daily basis. / **Ho tsuba kwae letsatsi le letsatsi.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | b. Exercise at least three times a week. / **Ho ikwetlisa bonyane hararo ka beke.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | c. Eat breakfast every day. / **Ho ja dijo tsa hoseng letsatsi le letsatsi.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | d. Eat one or more meals each week that have a high salt or fat content. / **Ho ja phepo ya dijo e le nngwe kapa ho feta e nang le letswai kapa mafura a mangata.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | e. Eat vegetables at least once a day. / **Ho ja meroho bonyane hanngwe ka letsatsi.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | f. Eat fruit at least once a day. / **Ho ja tholwana bonyane hanngwe ka letsatsi.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | [*fieldworker: read out the options; circle ONE option only in each row*] | | | | | | | | | |

# SECTION F: ALCOHOL USE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **11.** | **a**. To what extent do you intend to drink alcohol over the next month? / **Ke ka botebo bo bokae o rerileng ho nwa tahi nakong ya kgwedi e tlang?** | 1 = Definitely do not intend to do this / **Kannete ha kea rera ho etsa sena** | | | | | 7 = Definitely intend to do this / **Kannete ke rerile ho etsa sena** | | Don't know | Refused |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | **b.** Suppose you were with some friends at a party and one of them offered you some kind of alcohol drink. Would you: / **Nahana haeba o ne le moketjaneng le metswalle ebe e mong o o fa seno se nang le tahi. O ka:** | | | | | | | | | |
| | ***(i)*** Take it and try it. / **Enka ebe o wa e leka.** | 1 = Not at all / **Ho hang** | | | | | 7 = Completely willing / **Ke na le thahasello e le kannete** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | ***(ii)*** Say "no thanks". / **Re "tjhe kea leboha".** | 1 = Not at all / **Ho hang** | | | | | 7 = Completely willing / **Ke na le thahasello e le kannete** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | ***(iii)*** Leave the situation. / **Tloha boemong boo.** | 1 = Not at all / **Ho hang** | | | | | 7 = Completely willing / **Ke na le thahasello e le kannete** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | **c**. How often do you think you will drink alcohol in the next month? / **O nahana hore o tla nwa tahi kgafetsa hakae kgweding e tlang?** | 1 = Never/ **Ho hang** | | | | | 7 = Often (at least 4 or 5 times per week) / **7 = Kgafetsa (bonyane makgetlo a 4 kapa 5 ka beke** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | **d**. To what extent would you like to drink alcohol over the next month? / **Ke ka botebo bo bokae o ka batlang ho nwa tahi kgweding e tlang?** | 1 = Definitely would not like to do this / **Kannete nka se rate ho etsa sena** | | | | | 7 = Definitely would like to do this / **Kannete nka rata ho etsa sena** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **e**. Do people who are important to you think you should drink alcohol over the next month? / **Na batho bao o nahanang hore ba bohlokwa ho wena ba nahana hore o lokela ho nwa tahi kgweding e tlang** | 1 = Definitely think I should not do this / **Kannete ba nahana hore ke se etse sena** | | | | | 7 = Definitely think I should do this / **Kannete ba nahana hore ke etsa sena** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **f**. Of the five people of your age that you know best, how many drink alcohol? / **Ho batho ba bahlano ba dilemong tsa hao bao o ba tsebang hantle, ke ba bakae ba nwang tahi?** | 0 | 1 | 2 | 3 | 4 | 5 | | 98 | 99 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **g**. How easy or difficult would it be for you to drink alcohol over the next month? / **O nahana hore ho ka ba bonolo kapa thata hakae hore o nwe tahi kgweding e tlang?** | 1 = Very difficult / **Thata haholo** | | | | | 7 = Very easy / **Bonolo haholo** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **h**. If I wanted to, I could easily drink alcohol in the next month. / **Haeba ke ne ke batla, ke ne nka nwa tahi habonolo kgweding e tlang.** | 1 = Strongly disagree / **Ke hanahana ka matla** | | | | | 7 = Strongly agree / **Ke dumellana ka matla** | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Read out: | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | The following question concerns your images of people. For example, we all have ideas about what typical movie stars are like or what the typical grandmother is like. We might think of the typical movie star as being pretty or rich and the typical grandmother as sweet and frail. We are not saying that all movie stars or all grandmothers are exactly alike, but rather that many of them share certain characteristics. /**Potso e latelang e mabapi le ditshwantsho tsa hao tsa batho. Ka mohlala, kaofela re na le mehopolo ka hore na dinaledi tsa difilimi di jwang kapa hore na nkgono ya tlwaelehileng o jwang. Re ka nahana hore naledi ya difilimi e tlwaelehileng o motle kapa o na le tjhelete le hore nkgono ya tlwaelehileng o bonolo mme o fokotse. Ha re re dinaledi tsohle tsa difilimi kapa bo-nkgono bohle ba tshwana hantle, empa re re bongata ba bona ba na le dintlha tse itseng tse tshwanang.** | | | | | | | | |
| | | | | | | | | | |
| | **i**. On a scale of 0 to 100, where 0 is extremely unfavourable and 100 is extremely favourable, what is your impression of the type of person your age who drinks alcohol? Please take a little time to think of the characteristics that you think best describes this type of person. / **Sekaleng sa 0 ho isa 100, moo 0 e leng e sa rateheng haholoholo mme 100 e le e ratehang haholoholo, monahano wa hao ke ofe ka mofuta wa motho ya dilemong tsa hao ya nwang tahi? Ka kopo nka nakwana ho nahana ka dintlha tseo o nahanang hore di hlalosa motho enwa hantle ho fetisisa.** | | | | | | | 98 | 99 |
| | | [*fieldworker: record the answer in the three blocks*] | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | **j**. In general, how similar are you to the type of person your age who drinks alcohol?/**Ka kakaretso, o tshwana hakae le mofuta eo wa motho ya dilemong tsa hao ya nwang tahi?** | 1 = Not at all similar to me / **Ha a tshwane le nna ho hang** | | | | | 7 = Very similar to me / **O tshwana le nna haholo** | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 98 | 99 |
| | | | | | | | | | |
| | [*fieldworker: read out the options for each of the above questions; circle ONE option only in each row for all questions, except question 'i'*] | | | | | | | | |

| | | | |
|---|---|---|---|
| **12**. | How often do you have a drink containing alcohol? / **Ke kgafetsa hakae o nwang seno se nang le tahi?** | Never / **Ho hang** | 0 |
| | | Monthly or less / **Ka kgwedi kapa ka tlase ho moo** | 1 |
| | | 2-4 times a month / **Makgetlo a 2-4 ka kgwedi** | 2 |
| | | 2-3 times a week / **Makgetlo a 2-3 ka beke** | 3 |
| | | 4 or more times a week/**Makgetlo a 4 kapa ho feta ka beke** | 4 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options*; *circle ONE option only*] | | |
| | | | |
| **13**. | How many standard drinks containing alcohol do you have on a typical day? / **Ke dino tse kae tse tlwaelehileng tse nang le tahi tse o di nwang ka letsatsi le tlwaelehileng?** | 1 or 2 / **1 kapa 2** | 0 |
| | | 3 or 4 / **3 kapa 4** | 1 |
| | | 5 or 6 / **5 kapa 6** | 2 |
| | | 7 to 9 / **7 ho isa 9** | 3 |
| | | 10 or more / **10 kapa ho feta** | 4 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options*; *circle ONE option only*] | | |
| | | | |
| **14**. | How often do you have six or more drinks on one occasion? / **Ke kgafetsa hakae o nang dino tse tsheletseng kapa ho feta ka sebaka se le seng?** | Never / **Ho hang** | 0 |
| | | Less than monthly / **Ka tlase ho hanngwe ka kgwedi** | 1 |
| | | Monthly / **Ka kgwedi** | 2 |
| | | Weekly / **Ka beke** | 3 |
| | | Daily or almost daily / **Letsatsi le letsatsi kapa haufi le letsatsi le letsatsi** | 4 |
| | | Don't know | 98 |
| | | Refused | 99 |
| | [*fieldworker: read out the options*; *circle ONE option only*] | | |

71. Please tell me, in general, how willing or unwilling you are to take risks, using a scale from 0 to 10, where 0 means you are "completely unwilling to take risks" and 10 means you are "very willing to take risks." You can also use any number between 0and 10 to indicate where you fall on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10.
**Kekopa o njwetse, katlwaelo, o e kemeseditse ha kakangkapa ha oa e kemesetsa ho nkamonyetla, resebedisasekala se tlohang ho 0 hoa ho 10, ha 0 a bolelahore "ha oa e kemesetsahaholo" hanthe 10 o bolelahore "o e kemesetse ha holo ho nkamonyetla" O kannewasebedisa do nomorotse ma bape le 0 le 10 ho bontshahore o welakaesekalengsena, o sebedisa 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, kapa 10.**

10 Very willing to take risks/**Ke e kemeseditsehaholo ho nkamonyetla**

09
08
07
06
05
04
03
02
01
00 Completely unwilling to take risks/**Ha kea e kemesetsahohang ho nkamonyetla**

98 (DK)/Ha ketsebe
99 (Refused)/(Hanne)

**72.** We now ask you for your willingness to act in a certain way. Please again indicate your answer on a scale from 0 to 10. A 0 means "completely unwilling to do so," and a 10 means "very willing to do so." You can also use any number between 0 and10 to indicate where you fall on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. **(Read A-D)**
**Jwale re kopa o e tshware ka tsela e etseng. Hape ke kopa o refe karabo ka tsela ya sekala ho tloha ho 0 hoya ho 10. Ha 0 a bolela hore "ha o dumelanne haholo ho etsa ka mogoa ono" o kane wa sebedisa hape nomoro engwe le engwe e mahare a 0 hoya ho 10, ho bontsha hore o wela kae ssekaleng, o sebedisa 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. (Bala A-D)**

| | **Completely unwilling to do so Ha ke a e kemesetsahohang** | | | | | | | | | | **Very willing to do so Ke e kemeseditsehaholo ho etsajwalo** | **Ha ketsebe/ Ha de amani** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[WP13418]** A. How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future? O e kemeseditse ha jwang ho tellantho e etsengkajenohore o tle o fumane e fetangkammoso? | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |
| **[WP13419]** B. How willing are you to punish someone who treats **you** unfairly, even if there may be costs for you? O e kemiseditse ha kae ho hlaodisamotho e mongbohlokabaka la ho bosetsaleha ho k aba le thekohoo wen aka ho bane a tshwerehampe | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |

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| | **Completely unwilling to do so Ha ke a e kemesetsahohang** | | | | | | | | | | **Very willing to do so Ke e kemeseditsehaholo ho etsajwalo** | **Ha ketsebe/ Ha de amani** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[WP13420]** C. How willing are you to punish someone who treats **others** unfairly, even if there may be costs for you? O e kemiseditse ho panishamotho | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |
| **[WP13421]** D. How willing are you to give to good causes without expecting anything in return? O e kemiseditse ho nehelaka bottle leha o sekewafumanaletho | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |

73. How well does each of the following statements describe you as a person? Please indicate your answer on a scale from 0 to 10. A 0 means "does not describe me at all," and a 10 means "describes me perfectly." You can use any number between 0 and 10 to indicate where you fall on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. **(Read A-E)**
**O kare di …tse latelang di hlalosa wena jwalo ka motho jwang? Ke kopa o fane ka karabo ya hao ka sekala se qalang ho 0 hoa ho 10. Ha 0 a bolela hore "ha e hlalose nna ho hang", ha 10 a bolela hore "e hlalosa nna ka botlalo". O ka sebedisa nomoro engwe le engwe hara 0 hoa ho 10 ho bontsha hore o wela kae sekaleng sena, o sebedisa 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, kapa 10. (Bala A-E)**

| | **Does not describe me at all ha e hlalose nna ho hang** | | | | | | | | | | **Describes me perfectly e hlalosa nna ka botlalo** | **Ha ke tsebe/ Ha de amani Ha ke tsebe/ ha e tobane** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[WP13422]** A. When someone does me a favor, I am willing to return it. **Ha motho a nketsetsa mohao, ke a rata ho mokgotlisetsa mohao lenna** | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |
| **[WP13423]** B. If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost to do so. **Ha ke tshwerwe ha mpe, ke tla e posetsa ha ke thola fela nthla ya pele ya ho etsa jwalo.** | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |
| **[WP13424]** C. I assume that people have only the best intentions. **Ke nka hore batho ba e kemesetse tse nthle feela.** | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |

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| | **Does not describe me at all ha e hlalose nna ho hang** | | | | | | | | | | **Describes me perfectly e hlalosa nna ka botlalo** | **Ha ke tsebe/ Ha de amani Ha ke tsebe/ ha e tobane** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[WP13425]** D. I am good at math. **Ke tseba di palo haholo** | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |
| **[WP13426]** E. I tend to postpone tasks even if I know it would be better to do them right away. **Ke tlwaetse ho behela mosebetsi morao le ha ke tseba hore ho k aba betere ho o etsa ka nako eo.** | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 99 |

**(READ:)** Please imagine the following situation: You can choose between a sure payment of a particular amount of money, OR a draw, where you would have an equal chance of getting **300 ZAR** or getting nothing. We will present to you five different situations.**Ke kopa o nahanne ka e latelang: o ka kgetha mahare a ho amohela mopotso o mahare a tjhelete e etseng kabonnete,KAPA ho nyollo, mmo o kaba le monyetla wa ho fumana 300 ZAR kapa ho sa fumane letho.**

**[WP13427]**

74. What would you prefer: A draw with a 50-percent chance of receiving **300 ZAR** and the same 50-percent chance of receiving nothing, OR the amount of **160 ZAR** as a sure payment?
*O ka rata eng: Nyollo e na le monyetla wa 50 persente oa ho fumana **300 ZAR** le di persente tse 50 tsa ho sa fumane letho, KAPA le nani la **160 ZAR** jwalle ka mopotso o nnetefetseng.*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to Q90 )/(Fetela ho Q90)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Repeat question; If "DK" or "NA" again, Skip to Q105)** |

**[WP13428]**

75. Would you prefer the 50/50 chance or the amount of **80 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **80 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to Q83)/(Fetela ho Q83)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

**[WP13429]**

76. Would you prefer the 50/50 chance or the amount of **40 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **40 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q80)/(Fetela ho Q80)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

**[WP13430]**

77. Would you prefer the 50/50 chance or the amount of **60 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **60 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q79)/(Fetela ho Q79)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

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**[WP13431]**
78. Would you prefer the 50/50 chance or the amount of **70 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **70 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to Q105)/(Fetela ho Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q105)/(Fetela ho Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

**[WP13432]**
79. Would you prefer the 50/50 chance or the amount of **50 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **50 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to Q105)/(Fetela ho Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q105)/(Fetela ho Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

**[WP13433]**
80. Would you prefer the 50/50 chance or the amount of **20 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **20 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q82)/(Fetela ho Q82)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105 )/(Fetela ho Q105)** |

**[WP13434]**
81. Would you prefer the 50/50 chance or the amount of **30 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **30 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to Q105)/(Fetela ho Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to Q105)/(Fetela ho Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to Q105)/(Fetela ho Q105)** |

**[WP13435]**
82. Would you prefer the 50/50 chance or the amount of **10 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **10 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13436]**
83. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **120 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **120 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q87)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13437]**
84. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **100 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **100 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q86)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

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99 (DK/NA)/(Ha ke tsebe/Ha de amani) **(Skip to )/(Fetela ho )Q105)**

**[WP13438]**

85. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **90 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **90 ZAR** jwalo ka mopotso?*

1 50/50 chance/monyetla wa 50/50 **(Skip to )/(Fetela ho )Q105)**
2 Sure payment/Mopotso o netefetseng **(Skip to )/(Fetela ho )Q105)**
99 (DK/NA)/(Ha ke tsebe/Ha de amani) **(Skip to )/(Fetela ho )Q105)**

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**[WP13439]**

86. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **110 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **110 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13440]**

87. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **140 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **140 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q89)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13441]**

88. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **150 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **150 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13442]**

89. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **130 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **130 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13443]**

90. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **240 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **240 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q98)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13444]**

91. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **200 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **200 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q95)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13445]**

92. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **180 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **180 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q94)** |
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

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99 (DK/NA)/(Ha ke tsebe/Ha de amani) **(Skip to )/(Fetela ho )Q105)**

**[WP13446]**

93. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **190 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **190 ZAR** jwalo ka mopotso?*

1 50/50 chance/monyetla wa 50/50 **(Skip to )/(Fetela ho )Q105)**
2 Sure payment/Mopotso o netefetseng **(Skip to )/(Fetela ho )Q105)**
99 (DK/NA)/(Ha ke tsebe/Ha de amani) **(Skip to )/(Fetela ho )Q105)**

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**[WP13447]**

94. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **170 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **170 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13448]**

95. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **220 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **220 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q97)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13449]**

96. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **230 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **230 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13450]**

97. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **210 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **210 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13451]**

98. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **280 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng 2**80 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q102)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13452]**

99. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **260 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **260 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q101)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13453]**

100. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **270 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **270 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13454]**

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101. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **250 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **250 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105/WP13458)** |

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**[WP13455]**

102. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **300 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **300 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q104)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13456]**

103. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **290 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **290 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Skip to )/(Fetela ho )Q105)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Skip to )/(Fetela ho )Q105)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Skip to )/(Fetela ho )Q105)** |

**[WP13457]**

104. Would you prefer the 50/50 chance/monyetla wa 50/50 or the amount of **310 ZAR** as a sure payment?
*O ka rata monyetla oa 50/50 kapa le nani la tjhelete eleng **310 ZAR** jwalo ka mopotso?*

| | | |
|---|---|---|
| 1 | 50/50 chance/monyetla wa 50/50 | **(Continue)/(Tswela pele)** |
| 2 | Sure payment/Mopotso o netefetseng | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/(Ha ke tsebe/Ha de amani) | **(Continue)/(Tswela pele)** |

**[WP13458]**

105. Please think about what you would do in the following situation. You are in an area you are not familiar with, and you realize that you lost your way. You ask a stranger for directions. The stranger offers to take you to your destination.
*Ke kopa o nahanne hore o nne o ka etsa eng ….tse latelang. O tolong osa e tlaelang, haoe o elelwa hore o timetse. O butsa motho o selle tsela. Motho enwa o e nehella ho ho is ammo o yang.*

Helping you costs the stranger about **16 ZAR** in total. However, the stranger says he or she does not want any money from you. You have six presents with you. The cheapest present costs **4 ZAR**, the most expensive one costs **24 ZAR**. Do you give one of the presents to the stranger as a "thank you" gift?
*Ho thosa wena, motho enwa o lahlehelwa ke **16 ZAR** kabotlalo. Leha ho le jwalo, motho enwa o re ha a battle tjhelete ho tswa ho wena. O nale di mpho tse sopelelng ho wena. Mpho ea theko e tlase ke **4 ZAR,** e turang ha holo ke **24 ZAR.** O fa motho enwa engwe ya dimpho tsena jwalo ka "teboho"?*

**(If yes, ask:)** Which present do you give to the stranger? **(Read 2-7)**

***(ha e le e, botsa:)** ke e feng mpho o e fang motho enwa? **(Bala 2-7)***

| | |
|---|---|
| *1* | No/Che, would not give present,/*Che, o keke wa mofa mpho* |
| ***2*** | The present worth **4 ZAR**/*Mpho e na le boleng ba **4 ZAR*** |
| ***3*** | The present worth **8 ZAR**/*Mpho e na le boleng ba **8 ZAR*** |
| ***4*** | The present worth **12 ZAR**/*Mpho e na le boleng ba **12 ZAR*** |
| ***5*** | The present worth **16 ZAR**/*Mpho e na le boleng ba **16 ZAR*** |
| ***6*** | The present worth **20 ZAR**/*Mpho e na le boleng ba **20ZAR*** |
| ***7*** | The present worth **24 ZAR**/*Mpho e na le boleng ba **24 ZAR*** |
| 9 | *(Ha ke tsebe/Ha de amani)* |

**[WP13459]**

**106.** Imagine the following situation: Today you unexpectedly received **800 ZAR.** How much of this amount would you donate to agood cause? **(Values between 0 and 800 are allowed)**
*Nahanna ka boemo bo latelang: kajeno o fumana **800 ZAR** o sa e letella, ke bo kae tjheleteng ena o ka fanang ka yona ho ba e hlokang? **(Tekano e ma bape le 0 hoa ho 800 e dumelehele)***

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**ZAR/Ranta**

9999999999 (Ha ke tsebe/Ha de amani)

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**(READ:)** Suppose you were given the choice between receiving a payment today or a payment in 12 months. We will now presentto you five situations. The payment today is the same in each of these situations. The payment in 12 months is different in every situation. For each of these situations, we would like to know which you would choose. Please assume there is no inflation, i.e. future prices are the same as today's prices.
onne o felwe monyetla oa ho fumana mopotso kajeno kappa tefello ka kgwedi tse 12. Re tla ho ho fa di …tse hlano. Tefello kajeno e a tshwana karollong tseana. Tefello ya kgwedi tse 12 e arohane sebakeng le sebaka. Debakeng tsena ka bong, re ka rata ho tseba hore o ka kgetha efeng. Nahanna hore ha e nyolohe. Ho bua hore, di tefello tse tlang diatshwana le tse tlang.

**[WP13460]**
107. Please consider the following: Would you rather receive **100 ZAR** today or **154 ZAR** in 12 months?
*Ke kopa o shebisise tse latelang: O ka nne wa fumana **100 ZAR** kajeno kapa **154 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q123)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Repeat question; If "DK" or "NA" again, Skip to READ BEFORE SSA1/WP7021)** |

**[WP13461]**
108. Would you rather receive **100 ZAR** today or **125 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **125 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q116)/(Fetela ho Q116)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pele)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13462]**
109. Would you rather receive **100 ZAR** today or **112 ZAR** in 12 Months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **112 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q113)/(fetela ho Q113)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13463]**
110. Would you rather receive **100 ZAR** today or **106 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **106 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q112)/(Fetela ho Q112)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13464]**
111. Would you rather receive **100 ZAR** today or **103 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **103 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

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**[WP13465]**
112. Would you rather receive **100 ZAR** today or **109 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **109 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13466]**
113. Would you rather receive **100 ZAR** today or **119 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **119 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )Q115)/(Fetela ho Q115)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13467]**
114. Would you rather receive **100 ZAR** today or **122 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **122 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13468]**
115. Would you rather receive **100 ZAR** today or **116 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **116 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13469]**
116. Would you rather receive **100 ZAR** today or **139 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kappa **139 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q120)/(fetela ho Q120)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13470]**
117. Would you rather receive **100 ZAR** today or **132 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **132 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q119)/(fetela ho Q119)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |

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| | | |
|---|---|---|
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

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**[WP13471]**
118. Would you rather receive **100 ZAR** today or **129 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **129 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13472]**
119. Would you rather receive **100 ZAR** today or **136 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **136 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13473]**
120. Would you rather receive **100 ZAR** today or **146 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **146 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q122)/(Fitella ho Q122)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13474]**
121. Would you rather receive **100 ZAR** today or **143 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **143 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13475]**
122. Would you rather receive **100 ZAR** today or **150 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **150 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13476]**
123. Would you rather receive **100 ZAR** today or **185 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **185 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Continue)/(Tswela pele)/(Tswela pelle)** |

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| | | |
|---|---|---|
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )Q131) (Fitella ho Q131)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

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**[WP13477]**

124. Would you rather receive **100 ZAR** today or **202 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **202 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q128) (Fitella ho Q128)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13478]**

125. Would you rather receive **100 ZAR** today or **193 ZAR** in 12 months?
` *O ka nne oa fumana **100 ZAR** kajeno kapa **193 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )Q127) (Fitella ho Q127)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13479]**

126. Would you rather receive **100 ZAR** today or **197 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **197 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)** |

**[WP13480]**

127. Would you rather receive **100 ZAR** today or **189 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **189 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13481]**

128. Would you rather receive **100 ZAR** today or **210 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **210 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )Q130) (Fitella ho Q130)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)** |

**[WP13482]**

129. Would you rather receive **100 ZAR** today or **215 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **215 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

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**[WP13483]**
130. Would you rather receive **100 ZAR** today or **206 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **206 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13484]**
131. Would you rather receive **100 ZAR** today or **169 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **169 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q135) (Fitella ho Q135)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13485]**
132. Would you rather receive **100 ZAR** today or **161 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **161 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q134)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13486]**
133. Would you rather receive **100 ZAR** today or **158 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **158 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho PELE HO SSA1)** |

**[WP13487]**
134. Would you rather receive **100 ZAR** today or **165 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **165 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13488]**
135. Would you rather receive **100 ZAR** today or **177 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **177 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )Q137)/(Fitella ho Q137)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)/(Tswela pelle)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho** |

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**BALA PELE HO SSA1)**

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**[WP13489]**

136. Would you rather receive **100 ZAR** today or **173 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **173 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Skip to )/(Fetela ho )READ BEFORE SSA1)/(Fetela ho BALA PELE HO SSA1)** |

**[WP13490]**

137. Would you rather receive **100 ZAR** today or **181 ZAR** in 12 months?
*O ka nne oa fumana **100 ZAR** kajeno kapa **181 ZAR** kgweding tse 12?*

| | | |
|---|---|---|
| 1 | Today/*Kajeno* | **(Continue)/(Tswela pele)** |
| 2 | In 12 months/*Kgweding tse 12* | **(Continue)/(Tswela pele)** |
| 99 | (DK/NA)/Ha ke tsebe/Ha de amani | **(Continue)/(Tswela pele)** |

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