Gain-loss frequency and final outcome in the Soochow Gambling Task: A Reassessment.
SGT 研究團隊 IGT 系列論文引用狀況


以下所整理的資料 (「引用內容」) 是依據引用「Gain-loss frequency and final outcome in the Soochow Gambling Task: a reassessment」論文內文中所做的敘述，文內同時引用到本團隊其他相關文章則一併陳列 (所引用文章列於「引用本團隊論文」)，論文來源列於「參考文獻出處」並同時提供部分訊息「網址聯結」。期刊文章、專書與碩博士論文之引用來源主要來自於 Google Scholar(引用時間點為 2014/01/14)。本文所呈現之論文引用不包含自引，本資料僅供參考相關文獻陸續整理修訂中。

「Deck B」、「Deck C」、「SGT」、「再驗 SGT」及「IGT-fMRI」分別代表以下五篇論文：


論文引用狀況資料呈現方式分三部分：
一、論文引用文章，二、文章引用具體內容
一、論文引用文章

期刊與研討會論文


碩博士論文


二、文章引用具體內容（按最新年代依序呈現）
### Buelow等人在研究中引用本团队在「受者偏好高頻率贏錢牌」的發現

<table>
<thead>
<tr>
<th>引用內容</th>
<th>“Thus, it is possible that differences in preferences between Decks A and B (and Decks C and D) can be attributed to individual differences in preference for a high frequency of positive short-term outcomes over long-term gains (Chiu et al., 2008).” (p. 2)</th>
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<td>“Previous research that manipulated long-term outcomes on the IGT to be even more positive has shown participants continue to focus on the frequency of gains/losses (Lin et al., 2007, 2009; Chiu et al., 2008), resulting in continued non-optimal decisions.” (p. 7)</td>
</tr>
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### 引用本團隊論文


### 參考文獻出處


### Seeley等人在研究中提到本團隊「輸贏頻率及分析方法的影響」

<table>
<thead>
<tr>
<th>引用內容</th>
<th>“It is an extensively used tool to identify the neural processes underlying decision making (Bechara, Damasio, Tranel, &amp; Anderson, 1998; Bechara, Damasio, Damasio, &amp; Lee, 1999; Bechara et al., 2001; Lin, Chiu, Cheng, &amp; Hsieh, 2008) and to assess decision making impairments in many clinical populations.”</th>
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<td>“However, a growing body of literature suggests that this simple metric has led to an oversimplified understanding of the decision making process (Chiu &amp; Lin, 2007; Chiu et al., 2008; Lin,Chiu, Lee, &amp; Hsieh, 2007; Lin, Chiu, &amp; Huang, 2009; North&amp; O’Carroll, 2001; Stocco, Fum, &amp; Napoli, 2009; Yechiam, Stout, Busemeyer, Rock, &amp; Finn, 2005).”</td>
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<td>“Numerous studies have evaluated the original structure and propose that loss frequency can predict deck choice, rather than OEV (Chiu et al., 2008; Chiu &amp; Lin, 2007; Lin et al., 2007).”</td>
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“It has previously been noted that decision makers are sensitive to decks with high frequency of loss in the IGT (Chiu et al., 2008; Chiu & Lin, 2007; Lin et al., 2007)”

引文


Aïte 等人引用本團隊 SGT 在輸贏頻率的發現

“ The ability to adjust behavior on the basis of the consequences of actions is central to adaptive decision making. This is particularly true for decision making under ambiguity, when information about outcome probabilities is missing and must be inferred from experience. Converging developmental studies have shown that feedback-monitoring ability in decision making improves with age (Cassotti, Houdé, & Moutier, 2011; Huizenga, Crone, & Jansen, 2007; Van Duijvenvoorde, Jansen, Visser, & Huizenga, 2010). Specifically, studies have demonstrated that until late adolescence, individuals prefer options for which the risks of a loss are low regardless of the magnitude of punishment. Recent work has shown a similar inability to consider both loss frequency and final outcome in adults’ decision making (Lin, Chiu, & Huang, 2009). The aim of the current study was to clarify developmental changes in the ability to consider both frequency of losses and final outcome in decision making under ambiguity.” (Aïte et al., 2012, p.2)

“ Although the IGT is considered a valid task to assess emotional decision making (Buelow & Suhr, 2009), some studies raise methodological issues that may have implications for the developmental pattern described above (see Dunn et al., 2006). In particular, based on a careful inspection of the gain – loss schedule of the IGT, Lin and colleagues (2009) indicated that the advantageous decks have significantly fewer net losses than the disadvantageous decks. Indeed, the advantageous Deck C contains standoff trials (i.e., the arithmetic comparison of money received
minus money lost was equal to zero), which is not the case for the disadvantageous decks. Consequently, when these standoff trials are taken into account, loss frequency in advantageous decks is lower than that in disadvantageous ones. The authors developed the Soochow Gambling Task (SGT) to directly contrast the impact of loss frequency and final outcome on decision making. This task allowed one to control the asymmetric gain – loss schedule of the IGT and to manipulate two opposite loss frequencies (high vs. low) and two final outcomes (advantageous vs. disadvantageous). In sharp contrast to previous results obtained using the IGT, the SGT findings revealed that adults substantially based their decisions on loss frequency rather than on the final outcome. Indeed, adults not only preferred decks associated with infrequent punishment in the SGT but also failed to differentiate advantageous decks from disadvantageous ones. In other words, when the methodological issues of the IGT were controlled, adults did not learn to choose advantageously during the course of the task and focused on loss frequency. Critically, this response pattern was observed only in children and adolescents in developmental studies using the classical IGT (Cassotti et al., 2011). The discrepancies in these results underscore the need to focus research on the relative influence of frequency and final outcome in decision making. To our knowledge, developmental changes have not been directly examined with the SGT, which controls the asymmetric gain – loss schedule of the IGT. This lack of knowledge is regrettable considering that the results obtained by Lin and colleagues (2009) conflict with those obtained in previous developmental investigations.” (Aïte et al., 2012, p.3)

“Using the SGT, the current study aimed to clarify whether the ability to consider both loss frequency and final outcome in decision making develops with age. Based on previous developmental studies (Cassotti et al., 2011; Huizenga et al., 2007), we hypothesized that children and adolescents focus only on loss frequency, whereas adults are better able to consider both loss frequency and final outcome. We also expected that children and adolescents would demonstrate a preference for decks associated with infrequent punishment as well as a failure to detect advantageous decks. In contrast, we expected a progressively advantageous pattern of choice among adults. Based on a study showing that tolerance for loss increased with age (Cassotti et al., 2011), adults were expected to switch less often than children and adolescents after a loss. However, if adults are insensitive to final outcome, as suggested by Lin and colleagues (2009), we expected that children, adolescents, and adults would have a strong bias in favor of decks associated with infrequent losses but no preference for advantageous decks.” (Aïte et al., 2012, p.3–4)

“Each participant was presented with a computerized, child-friendly version of the SGT (see Fig. 1) adapted from Lin and colleagues (2009). The relative proportions of wins and losses were identical to those used by Lin and colleagues. However, in the child-friendly version, the absolute amounts were reduced by a factor of 10. Participants were informed that they would play with imaginary money.” (Aïte et al., 2012, p.4)
“This tendency to avoid decks associated with a high frequency of punishment was also observed in the adult group. However, further examination of the data revealed that although adults preferred the infrequent punishment decks, they also considered the final outcome when making their decision (i.e., they picked Deck B more often than Deck A). This result corroborates the findings of previous studies that used standard or child versions of the IGT and found that adults favored the advantageous choice (Cassotti et al., 2011; van Duijvenvoorde et al., 2010). However, these findings are in sharp contrast to the conclusion of Lin and colleagues (2009) that “most decision-makers are guided by gain–loss frequency but not by final outcome” (p. 1). These authors reported that adults present a strong bias in favor of decks associated with infrequent punishments (i.e., a preference for Decks A and B compared with Decks C and D) and fail to consider the final outcome. Thus, contrary to Lin and colleagues’ claims, the developmental pattern previously evidenced using the IGT is unchanged when the asymmetric gain–loss schedule of the IGT is controlled using the SGT. It should be noted that we observed adults’ preference for advantageous options only for decks associated with low loss frequency. This finding might be a consequence of the characteristics of the SGT, in which the frequency of loss has two extreme values (80% vs. 20%). Further developmental research is necessary to determine whether a preference for an advantageous choice in high-frequency decks occurs with less extreme values.” (Aïte et al., 2012, p.8)

“In conclusion, children and adolescents’ choices were heavily influenced by the frequency of punishment, whereas adults considered both the frequency of losses and the final outcome in decision making under ambiguity. In sharp contrast to Lin and colleagues’ (2009) claims, the developmental pattern previously evidenced using the IGT was unchanged when the asymmetric gain–loss schedule of the IGT was controlled using the SGT. Moreover, the analysis of strategic adjustments following gains and losses revealed that adults switched less often after losses compared with children and adolescents. To our knowledge, the current study is the first to show evidence of a direct relation between shifts after losses and advantageous selections. This study suggests that psychological tolerance to loss may facilitate learning the characteristics of each option and improve the ability to choose advantageously. As such, the current study provides new evidence for the current debates about the key cognitive processes involved in child, adolescent, and adult decision making.” (Aïte et al., 2012, p.8)

引用本團隊論文

参考文獻出處
“We now consider two explanations for IGT choices to determine if the conditions align with the differences in strategies they suggest. One hypothesis is based on expected utility theory and the other is based on the idea that participants develop preferences for decks with lower frequency of losses. If participants behaved as expected utility theory predicts, the proportion of good deck selections should increase regardless of loss frequency (i.e. we should see increases in the proportion of choices in the bottom two panels and decreases in the top two panels). Alternatively, participants can develop deck preferences on the basis of loss frequency (Lin, Chiu, Lee, & Hsieh, 2007; Lin, Chiu, & Huang, 2009). In this case, proportion of low loss frequency deck choices (two right panels) should increase and those for high loss frequency decks (two left panels) should decrease. Thus, both hypotheses predict that choices should decrease for the high loss frequency bad deck (top left) and increases for the low loss frequency good deck (bottom right). Both conditions were consistent with those predictions. The hypotheses make different predictions for the low loss frequency bad deck (top right) and high loss frequency good deck (bottom left).” (Noguchi and Hillis, p.5)


http://www.knocked-knees.com/papers.html
daño en la región ventromedial de la corteza prefrontal y en los sujetos drogodependientes (consumidores de alcohol, cocaína, heroína, metanfetaminas o cannabis), existe deterioro en la ejecución de dicha prueba. Tienden a elegir más cartas de los mazos desfavorables, sin embargo los sujetos sanos acaban seleccionando más cartas de los mazos favorables (Bechara, 2003; Bechara, Dolan, Denburg, Hindes, Anderson y Nathan, 2001; Bechara y Damasio, 2002; Grant, Contoreggi y London, 2000; Mazas, Finn y Steinmetz, 2000; Mogedas y Alameda, 2011; Shannon, Mathias, Dougherty y Liguori, 2010; Vélez, Borja y Ostrosky-Solís, 2010; Verdejo, Aguilar y Pérez-García, 2004; Whitlow et al., 2004). No obstante los drogodependientes sí pueden llegar a ser capaces de realizar la IGT de forma adecuada, ya que como muestra el trabajo de Verdejo-García, Benbrook, Funderbruk, David, Cadet y Bolla (2007) mejoran notablemente cuando la realizan por segunda vez, no tanto como los sujetos controles, y más que los consumidores de cocaína.” (Alameda Bailén et al., p.163)

“Tanto en los consumidores de cannabis como en el grupo control existen diferencias estadísticamente significativas entre las elecciones del mazo A y B, seleccionando con mayor frecuencia el mazo B, lo que indica que no es percibido como desfavorable. Varios autores (Lin et al., 2009; Lin et al., 2007) han intentado explicar este fenómeno, determinando que la preferencia de los mazos puede estar asociada a la frecuencia de ganancias y pérdidas, y no a los resultados obtenidos a largo plazo.” (Alameda Bailén et al., p.169-170)

“Teniendo en cuenta lo dicho anteriormente, consideramos necesario abordar en futuras investigaciones otras cuestiones, como analizar el tiempo de consumo, incrementar la muestra para poder analizar mejor el papel de la edad de inicio usando grupos extremos en la misma, y controlar los períodos de abstinencia y número de recaídas. Además, siguiendo a Contreras, Catena, Cándido, Perales y Maldonado (2008), sería necesario buscar medidas más fiables y solucionar los problemas de previsibilidad, la programación de los mazos, especialmente en B y C (Lin et al., 2009; Lin et al., 2007; Mogedas y Alameda, 2011; van den Bos, Houx y Spruijt, 2006), buscar presentaciones de estímulos más intuitivas o informativas (Gordillo et al., 2010), o analizar el tipo de instrucciones (Balodis et al., 2006; DeDonno y Demaree, 2008; Fernie y Tunney, 2006).” (Alameda Bailén et al., p.170)

引用本團隊論文
碩博士論文


網址聯結

參考文獻

de Visser 等人在其 IGT 的啮齒類行為模型的回顧文章中兩次提到本團隊 SGT 在輸贏頻率的發現

引用內容

“for instance, a high frequency of losses can lead human subjects to discard decks that are advantageous in the long-term (Chiu et al., 2008; Lin et al., 2009).” (Leonie et al., 2011, p.15)

“Gain/loss frequencies associated with each response option can be an important determinant of choice behavior during the IGT (Chiu et al., 2008; Lin et al., 2009).” (Leonie et al., 2011, p.15)

引用本團隊論文


Mitsogiannis 在其關於啮齒類決策行為的碩士論文中多處引用 SGT 的發現

引用內容

“Interestingly, recent research employing a modified version of the IGT in which advantageous decks are associated with a high frequency of losses, while disadvantageous decks present losses with a lower frequency, revealed that, regardless of their worse overall payoff, disadvantageous decks were chosen more than their counterpart throughout the task (Chiu et al., 2008; Lin et al., 2009). In this version of the IGT, probability of encountering losses versus gains was quite high for the
advantageous options (80% of the trials), indicating that an excessive risk of being punished and not being rewarded to advantageous options, in presence of frequently rewarding, rarely punishing options might impact behaviour in the task more than long-term outcome. (Manuela D., 2011, p.16)

In addition, it is important to note that in the human IGT a secondary positive reinforcer, money, is employed. The use of money during the task allows to materially experience both “wins” and “losses” of this specific reward every time a selection is made. The probability associated with each trial of incurring in financial penalties appears to be central for performance in the IGT (Fernie and Tunney, 2008): for instance, a high frequency of losses can lead human subjects to discard decks that are advantageous in the long-term (Chiu et al., 2008; Lin et al., 2009). (Manuela D., 2011, p.28)

As discussed in section 1.3, gain/loss frequencies associated with each response option can be an important determinant of choice behaviour during the IGT (Chiu et al., 2008; Lin et al., 2009). Regarding this task variable in the rodent IGT models here examined, a number of discrepancies with the original human task can be identified.” (Manuela D., 2011, p.28)

References


http://www.behavioralandbrainfunctions.com/content/5/1/7